AS-3630

Addressing System

USER'S GUIDE

neopost

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1 Introduction

With the Model 630 you chose an innovative digital printer featuring HP ink jet technology for printing variable data, e.g. mass mailings with addresses, serial numbers or other variable information and graphic elements. The device is designed for the professional use at a high throughput.

In order to ensure long-time and, above all, safe use of the Model 630 and its components, you have to read and adhere to the safety instructions in this user manual before starting installation and operation. Please do always observe any warnings and instructions that are directly attached to the device.

All persons using the printer must also be familiarised with this manual.

Please do carefully keep this manual available in order to be able to check back at any time.

1.1 Pictograms

General warnings

Warning against danger caused by electric current and electric shock

Information/advice: indicates some important device handling information

1.2 How to Use this Manual

In the continuous text you will find general information and descriptions. These are required to be able to execute subsequent working and operating steps.

The text is indicated by a dot when the technician or operator is expected to carry out a work step. E.g.:

- Carry out the next step now.
- Now the next step.

Please do always read these work-step texts in order to obtain any necessary information. Do not anticipate or ignore the manual; it keeps you from mistakes!

Chronology and manual consultation

The manual is chronologically structured, i.e. starting from the packaged delivery condition up to the ready-for-operation state, followed by operation, programming and, at last, technical information.

If you are not familiar with the printer, best read the manual sequentially. You will be guided step by step and thus be able to start-up the printer easily and quickly.

If you are already familiar with the Model 3630, it should be equally easy to use the manual for reference purposes.

1.3 Important Terms and Abbreviations

It is important to know some terms and abbreviations related to the Model 630:

- cartridge = Crt = C, C1, C2, C3
- print unit = Unit = U, U1, U2

  We refer to it as a unit since three cartridges are combined here.
- print media width = expansion of the print media in transport direction
- print media height = expansion of the print media at right angles to transport direction

1.4 System Requirements

The Model 3630 is designed for the application at a PC (at least Pentium 500 MHz) with parallel interface. It may be run by the operating systems Windows 2000 or Windows XP.

You require a shielded, twisted, parallel interface cable (not included in delivery).

When operating with Windows 2000 und Windows XP, the printer may be alternatively connected via USB cable.

2 Security Advice

Prior to initial operation, please do carefully read the following instructions for the sake of both your own safety and printer operating safety. Do always observe any warnings and instructions directly attached to the device. Do carefully keep this manual available in order to be able to check back at any time.

The Model 3630 digital printer exhibits state-of-the-art design and is safe to operate. However, if not operated by instructed personnel, the device may bear risks and dangers. The same applies to any usage that does not comply with its original purpose or that is inappropriate.

Disregard may bear the danger of

- electric shock,
- injuries due to draw-in by rotating rollers,
- damage of the printer.

2.1 General Security Advice

Caution!

Please do carefully read these instructions.

Keep this guide for future reference and consultation.

Any instructions and warnings attached to the device must be followed.

Setting-up the printer

When setting-up the printer, ensure safe and even positioning. Tilting, inadvertent rolling or falling may cause injuries.

The printer must be protected from humidity.

WARNING!

This is a device of class A. In living quarters it may cause radio interference. In this case the operator can be claimed to take appropriate measures.

Electric danger

Depending on country-specific performance, the Model 3630 digital printer may only be applied at voltages of either 230 V/50 Hz or 115 V/60 Hz.

The power plug may only be plugged into a shockproof socket! The shockproof protection may not be overridden by an extension without protective earth conductor. Any interruption of the protective earth conductor inside or outside the device is dangerous and not permissible.

The device is double-pole fused! After a fuse protection failure or deficiency, electric components inside the printer may continue to be energised.

When connecting to the electricity network, follow the electrical specifications on the type plate.

Check the voltage setting at the electricity input module of the device.

Place all cables and supply lines in such a way so that no one can stumble across them. Do not place any objects on the supply lines.

If the device is not used over a longer period of time, it should be disconnected from the electricity network. In doing so, you make sure to prevent it from damage caused by overvoltage.

Protect the printer from humidity. Penetration of moisture into the device bears the danger of electric shock.

Never open the device. For reasons of electrical safety, it may only be opened by authorised service personnel.

Operating safety

Never reach into the running machine!

There is danger of injuries caused by draw-in or squeezing at rotating rollers. Moreover, keep long hair and clothes away

from the running machine.

To avoid damage of the device, only factory–approved accessories should be used.

Cleaning the device

Prior to each cleaning process, the device must be disconnected from the electric network.

For cleaning, do not use liquid or aerosol cleaners; do only use a water-moistened cloth.

Let the printer be checked by a service technician!

In the following cases, unplug the connector and turn the device over to an authorised service technician:

- if the power cable or plug is worn or damaged
- if water or other liquids have penetrated into the device
- if the device does not function properly despite adherence to the quoted instructions
- if the device has fallen down or if the casing is damaged
- if the device exhibits peculiar deviations from normal operation

Spare parts

For repairs, only original spare parts or spare parts that correspond to the originals may be used.

Repairs

Do not disassemble the printer further than described in this manual. It is not admissible for unauthorised persons to open the device. Repairs may only be carried out by authorised staff.

Prohibition of reconstruction and modification:

Due to safety reasons, any arbitrary reconstructions and modifications are not permissible.

For any questions related to service and repairs, please refer to your service partner. Thus, you ensure safe operation for your printer.

2.2 Correct Handling of Ink Cartridges

Keep ink cartridges unavailable for children. Normally, the ink cannot leak. Immediately clean your skin from ink under running water. In case ink has entered your eye, immediately rinse it with plenty of water.

The ink cartridge should not be shaken, dropped or hit against the palms or hard surfaces.

Install the ink cartridge immediately after removing the protective tape. The cartridge may not be used after date of expiry!

Do not try to open or refill a cartridge; this can lead to damage of the printer.

2.3 Location of the Printer

When setting-up the printer, make sure that it is located on a plain and even surface which is larger than the printer.

The base platform for the printer must be sufficiently stable. Tilting or dropping of the device may lead to injuries or device damage.

Choose the location of operation or storage in a way that protects the device from heavy fluctuations of temperature and humidity, from direct solar radiation and excess heat.

The printer must not be exposed to vibration or shock.

Place the printer in such a way that the power plug can be easily disconnected from the power socket at any time.

Make sure that enough footprint is available for the feeder (in case that a feeder is used).

2.4 Disposal

The printer must not be disposed of by domestic waste. Please dispose of the printer according to the legal requirements.

3 Unwrapping and Assembly

3.1 Delivery

The Model 3630 is delivered in appropriate packaging and in such a way that it - at regular transport conditions - reaches its destination safely and undamaged.

The carrier is liable for damages during transport. Transport and storage should take place under normal circumstances, i.e. at temperatures between +5°C and +70°C (between 41°F and 158°F) and a relative humidity of 80% maximum. At non-admissible conditions, damages may develop which are not visible from outside.

The printer is fixed in the transport box by transportation locks. Loosen the transportation locks before you take out the printer. Do only lift the DDP at the recessed grips provided for this purpose. The device may **not** be lifted at the parts of the casing.

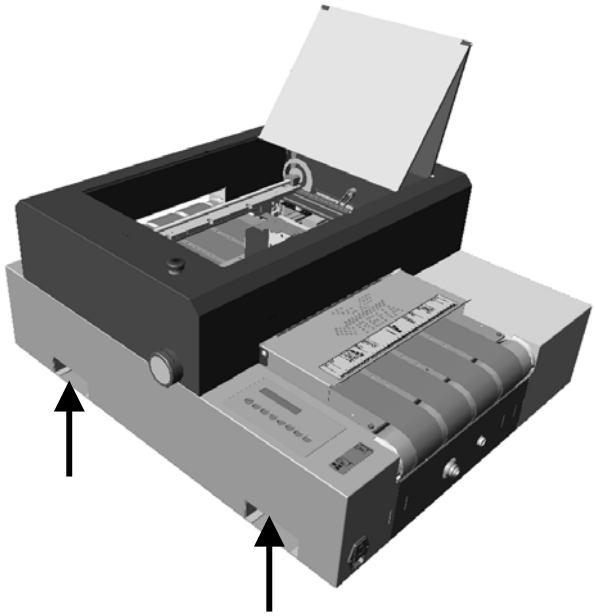


Figure 3-1: Delivery

Only lift device at the recessed grips!

3.2 Unwrapping the Printer

Packaging

In case the printer must be sent back, the Model 3630 packaging must be used.

You may also send the packaging back to your supplier.

In case the packaging is no longer needed, please dispose of it in an environmentally suitable manner.

Scope of delivery

Use the following list to check whether all parts of the DDP are entirely present and undamaged:

DDP parts list

Main device DDP

with 2 print units

User manual on CD-ROM incl. driver software

Additional components:

- Dreamfeeder F635 (otional)
- Connecting cable “Plug & Print“
- Rack for Dreamfeeder (optional)
-

3.3 Assembly

As a standard, the DDP is operated in connection with the Dreamfeeder. Due to transport reasons, the devices are separately wrapped and shipped. Before initial operation, the two devices must be linked with each other mechanically and electrically. Additionally, all transport locks must be removed.

Sequence of assembly:

Caution: *When operating the Model 3630 without the RENA Dreamfeeder, the points b and c do not apply.*

a) DDP setup

- When setting up, take care that there is still sufficient space on the rear side of the device for having direct access to the interfaces.
- Ensure that the device is switched off and that the socket is provided with an intact protective earth conductor. Afterwards, plug the power cable into the power input module on the right side of the device and into the power socket.

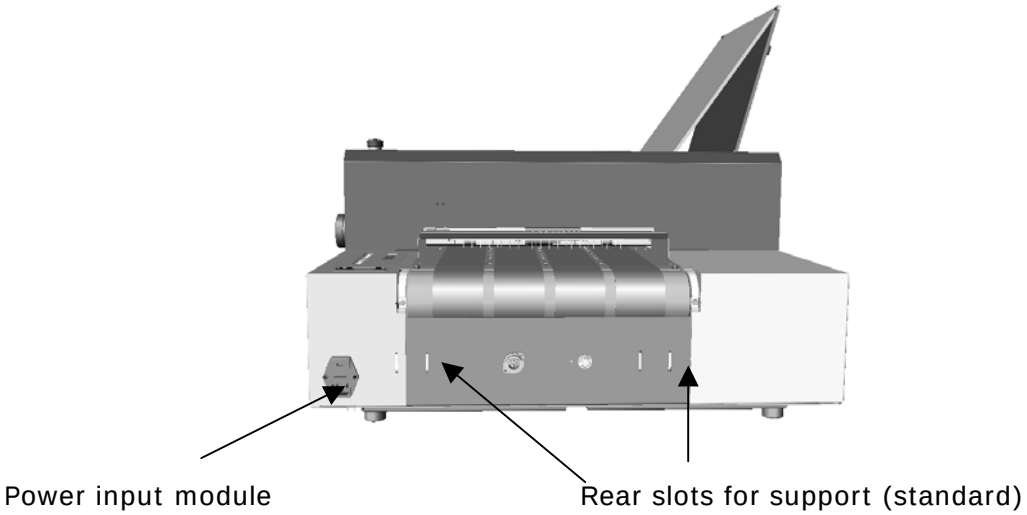


Figure 3-2: Assembly

b) Connecting the offline Dreamfeeder to the DDP

In order to make sure that the Dreamfeeder feeds the print media into the printer from the correct height, the Dreamfeeder is positioned on a supporting rack. To do this, align the Dreamfeeder in such a way that the two positioning fingers of the support are located on the same side as the ejector roller of the Dreamfeeder, as shown in the following illustration.

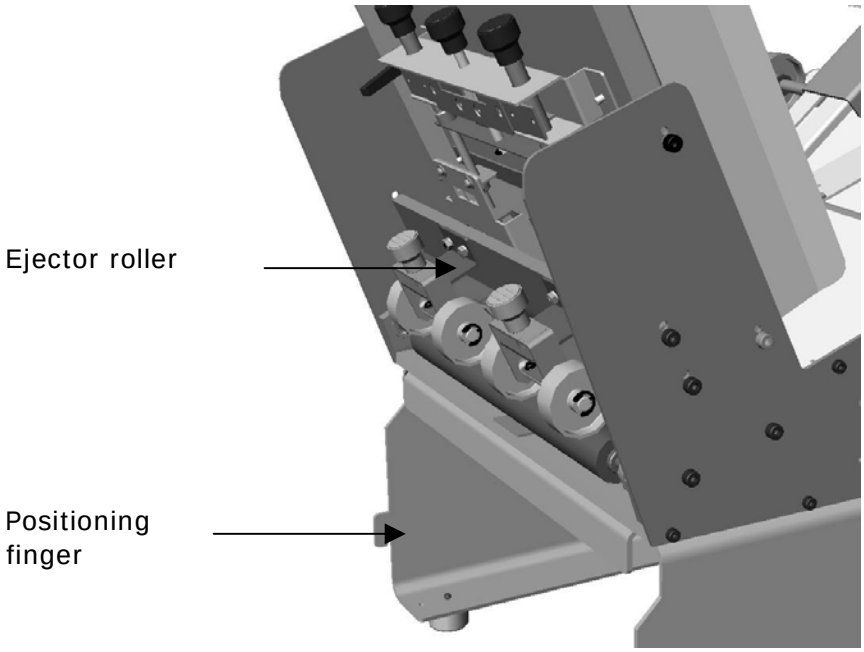


Figure 3-3: Connecting the Dreamfeeder

Put the two plugs of the Dreamfeeder through the bored hole on the upper side of the support and place the Dreamfeeder on the support in such a way that the thread bolts fit into the provided bored holes.

Subsequently, place the support approx. 15 cm before the DDP. By doing this, position the positioning fingers in front of the respective slots of the DDP on the right side of the device. Connect the Dreamfeeder (RS 232 input) to the (RENA Dreamfeeder output). Lock the connection by means of screwing the connectors. With the help of this interface, the DDP and the Dreamfeeder are able to communicate with each other in an intelligent way.

Now you can fit the positioning hooks into the rear slots at the DDP. Due to the separation of the print media, it is possible that between the DDP and the Dreamfeeder a difference of potential will establish. For the sake of discharge of electrostatic charging, the earthing strap at the slide plate of the DDP is screwed to the Dreamfeeder. With this, the DDP and the Dreamfeeder are readily aligned and connected to each other.

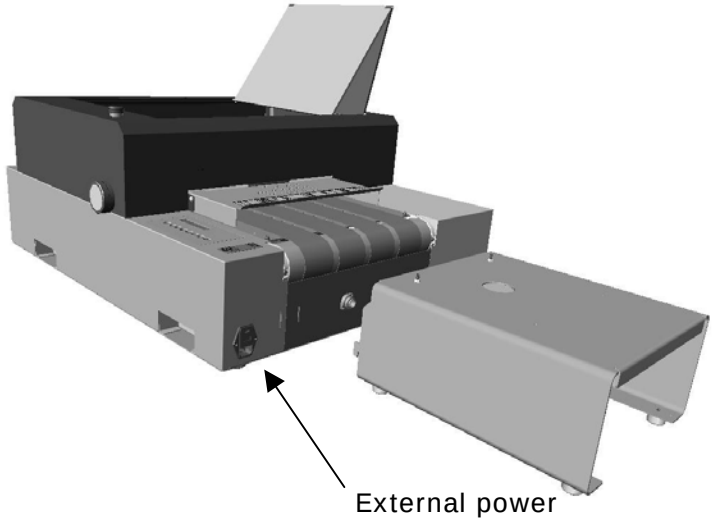
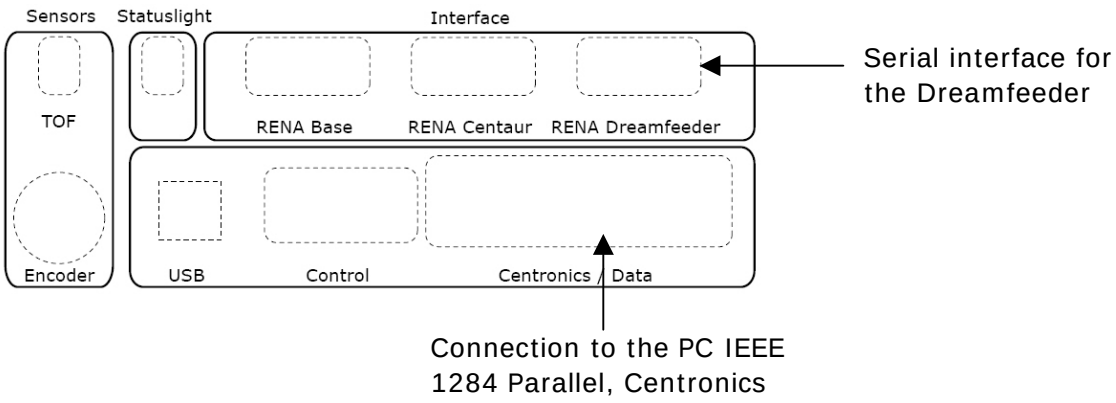


Figure 3-4: Connecting the Dreamfeeder 2



e) Positioning in case of narrow print media

As a standard, the Dreamfeeder is aligned with the help of a support at the rear positioning slots at the DDP. The Dreamfeeder then supplies the print media at a central position to the conveyor belt to position A. At the front right-hand device angle, the two positions are schematically illustrated.

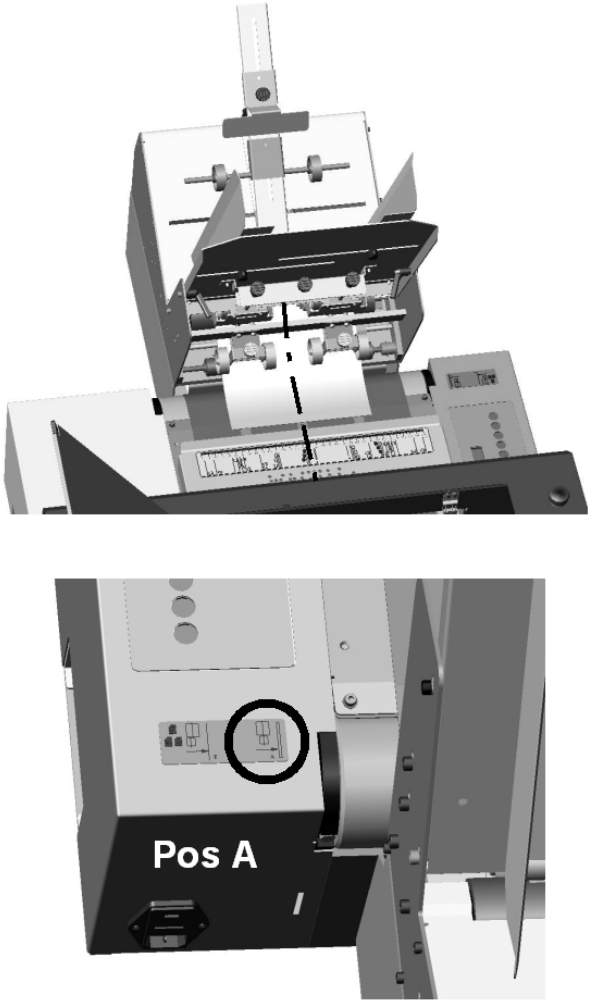


Figure 3-5: Dreamfeeder positioning A

In case the print medium covers less than three suction grooves, the Dreamfeeder should be replaced. Thus, the risk of the edges or angles bending upwards and the risk of a paper jam can be reduced. The support of the Dreamfeeder is then relocated to the front position, i.e. is hooked into the front slots. In the following illustration, the Dreamfeeder is pictured at the front position B with a small envelope. The print medium is fed at centre position to the second belt.

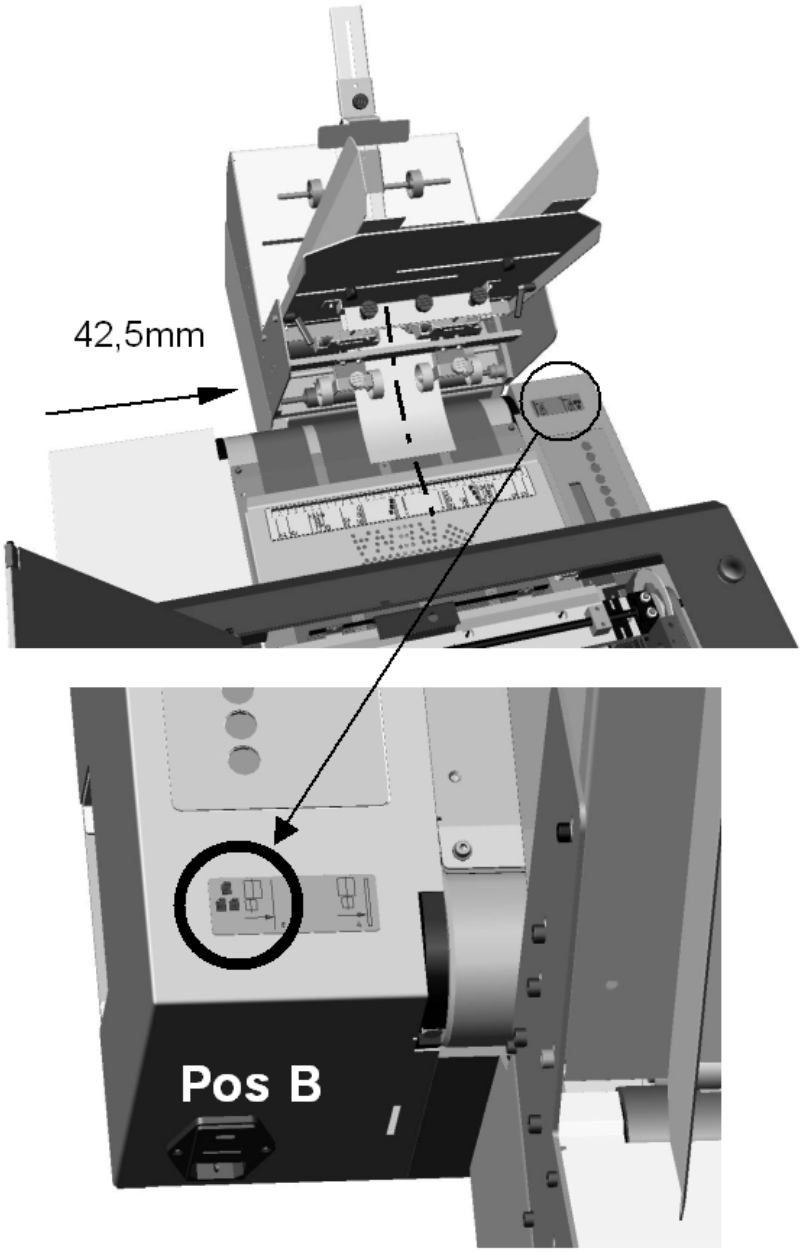
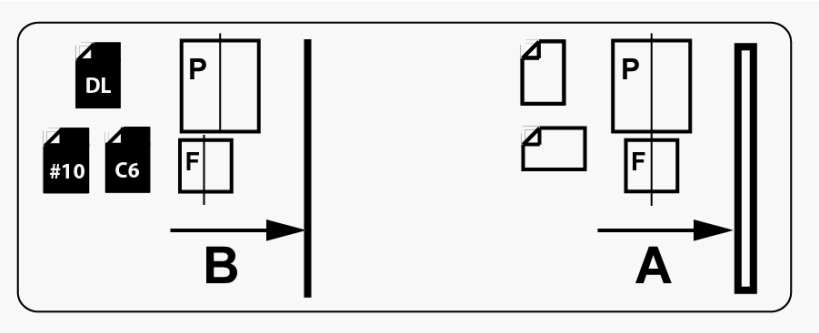


Figure 3-6: Dreamfeeder positioning B



On the above plate, those formats are given which should be fed at centre position to the second belt.

If the Dreamfeeder has been replaced, it is absolutely necessary to also adjust this within the device offset and the offset setting in FlexMail. Otherwise, printing and the adjusted print area will not be consistent with each other.

To do this, 42.5 mm must be added to the previously set value.

In case the height of the print medium should be less than 70 mm (caution: the DDP is not specified for this!), then the print media should be fed at centre position to the transport belt under position A.

You may read-off the correct offset at the ruler of the safety cover of the paper infeed side. Feed a print medium and position it below the safety cover. Read-off the rear value of the print medium edge. In the following illustration, a C5 envelope was fed into the device at position A.

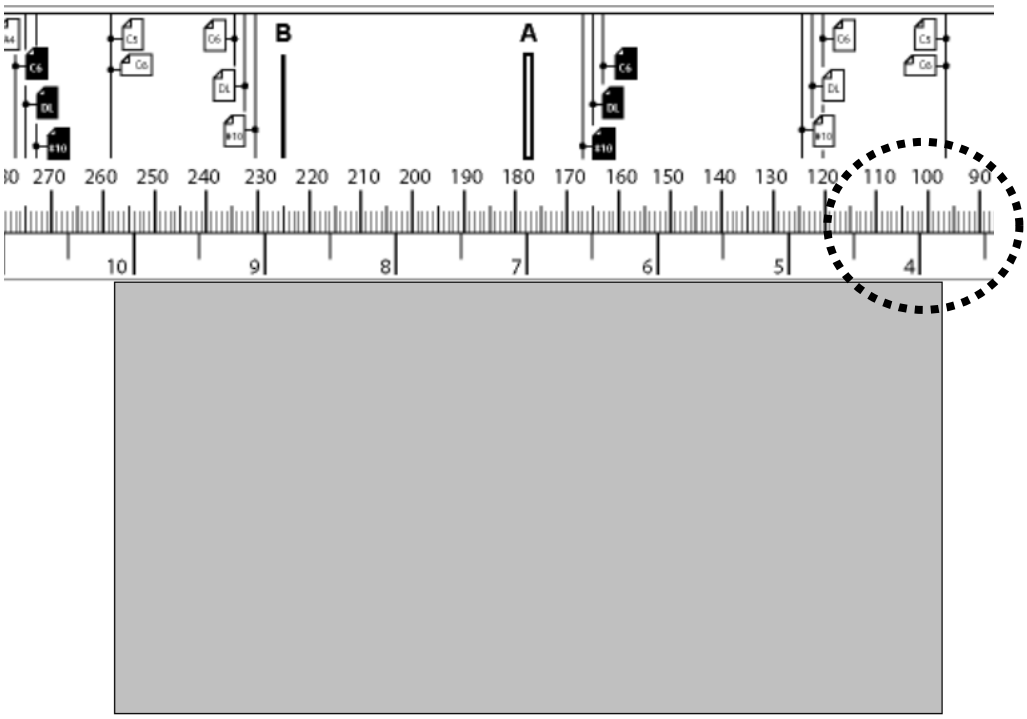


Figure 3-7: Read-off the offset

At the ruler, a value of 9.8 cm can be read-off. Take over this value as the offset value in FlexMail.

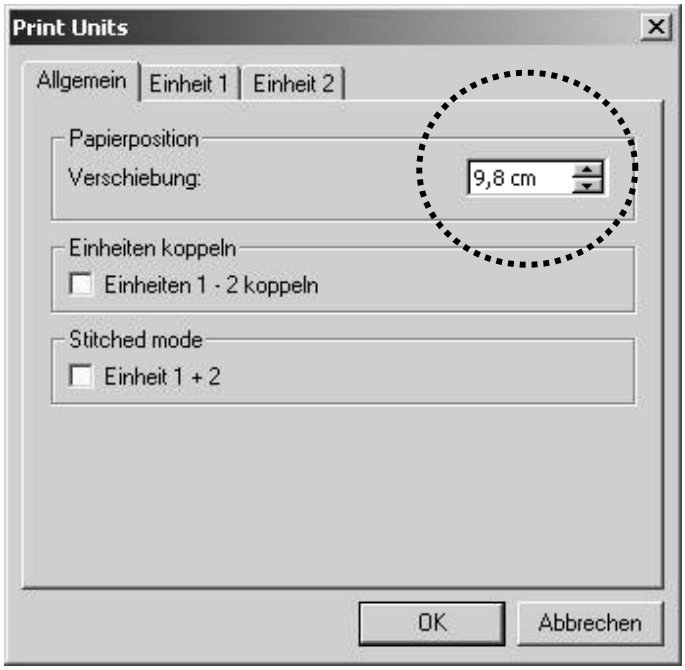


Figure 3-8: Set the offset in FlexMail

The below figure illustrates a #10 envelope which was fed at position B and which runs at centre position to the second belt. The value at the ruler amounts to 16.8 cm.

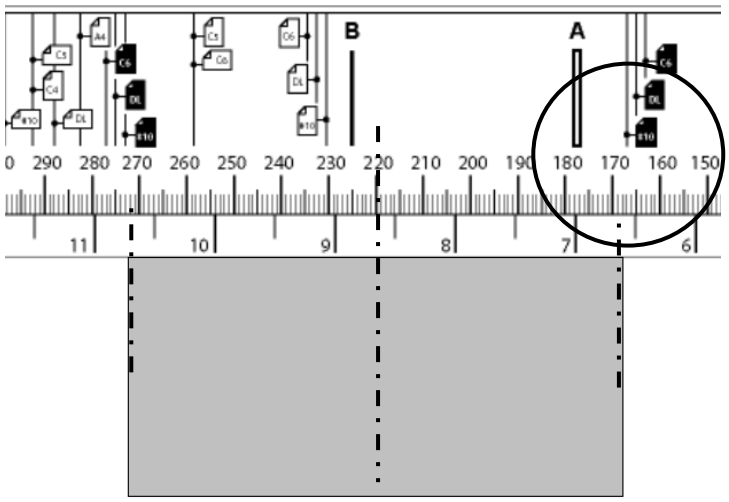


Figure 3-9: Read-off the offset with No. 10 envelope

Take over the value and enter it into FlexMail.

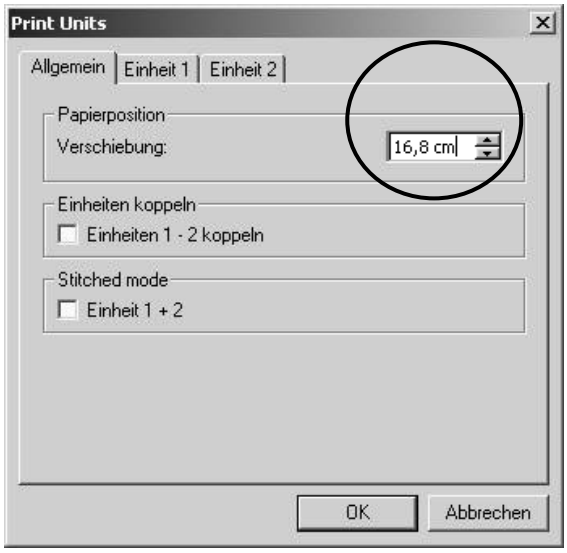


Figure 3-10: Set the offset in FlexMail for a No. 10 envelope

Setting the print area:

Depending on the device, the print area of the print units is set in different ways. The print area is configured via the software. We recommend the use of the FlexMail software. The corresponding settings within FlexMail are later described in detail.

4 Description of the DDP

4.1 DDP Overview

1 Slide plate
2 Keypad with LCD
3 Finger protection
4 Recessed grips for lifting
5 Knurled wheel with scale for print media thickness
6 Emergency switch
7 Print units
8 Paper light sensor
9 Scale for positioning the print media on the safety cover
10 Covering of the print unit
11 Transport belt
12 Dreamfeeder
13 Support for Dreamfeeder
14 Power input module

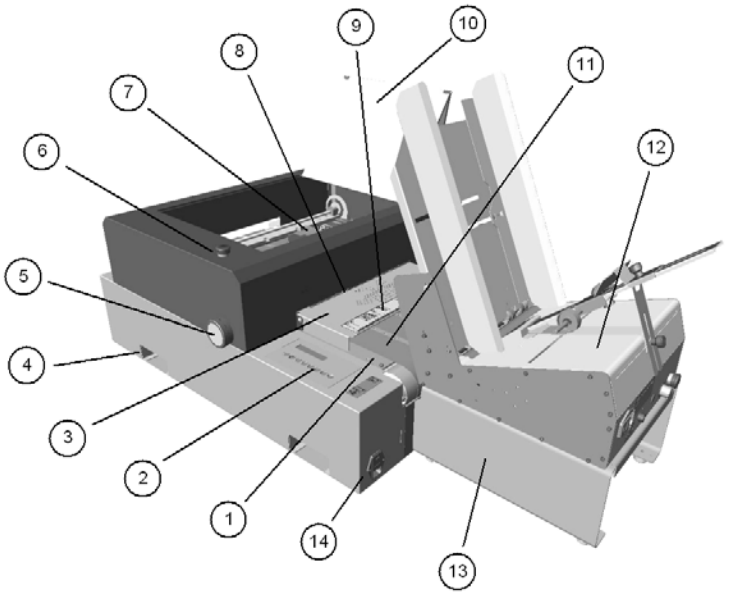


Figure 4-1: Model 3630 overview

4.2 Range of Application

The DDP is an inkjet printer with high font quality. The full print performance is reached by means of two print units.

The main field of application is the printing of mass mailings with addresses, graphics and postal elements. However, the application is not limited to this purpose.

The device may be applied both in stand-alone and in inline operation. The print media feed must be executed in a separated manner in inline mode.

4.3 Function Description

The DDP is designed for the operation at an IBM-compatible PC.

For address printing and envelope design we recommend the FlexMail program. Depending on the device version, this program is included in the scope of delivery. FlexMail enables comfortable working.

The two print units (U1, U2) of the DDP are provided with three HP ink cartridges (C1, C2, C3) each and carry out the printing of the addresses without proper motion.

The font alignment is always similar to the direction of transport. Printing may be performed in such a way that it is readable from the front side or rotated by 180° (upside down).

The height positioning of the print fields depends on the positions of the print units. For this purpose, the print units are movable. The breadthwise positioning of the address may either be performed via the application program (e.g. FlexMail) or via the adjustment within the menu of the DDP.

Each print unit prints addresses, texts or graphics within a maximum possible print area width of 420 mm (20'') and a print area height of 38 mm (1.5''). This corresponds to 9 lines at a font size of 12 pt.

By means of the conveyor belt, the print medium is transported below the print units. The direction of transport of the DDP is always from right to left (seen from the operator's position). The print medium is suck to the conveyor belt thus being held safely.

During idle periods, the print units are in stand-by ("parking") position. In this position, the cartridges are locked by means of caps and therefore prevented from drying up.

When starting the print job, the print units automatically move to printing position. When moving to and leaving the parking position, each ink cartridge is cleaned.

4.4 The Operator Panel

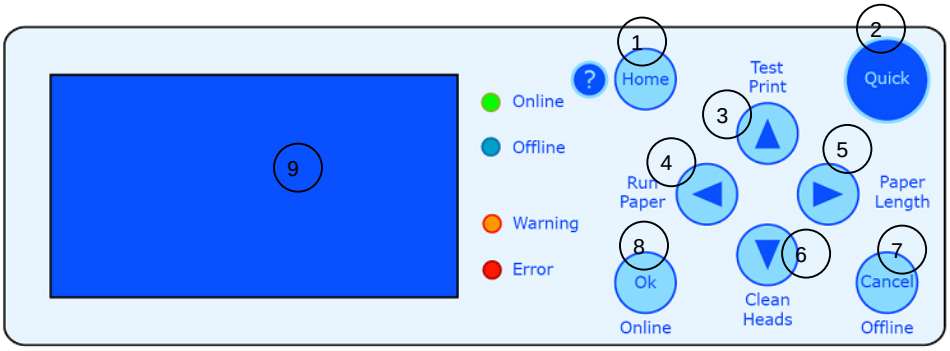


Figure 4-2: Operator panel

Functions of the keys

Keys	Key (X)	Together with “Quick” key
1	Home = Main Menu	
2	Quick Menu = quick access to important functions	
3	Upwards navigation	Start test print
4	Navigation to the left	Papier run
5	Navigation to the right	Media length measurement
6	Downwards navigation	Cleaning the nozzles
7	Cancel/offline mode	
8	OK (confirming)/online mode	

Functions of the light-emitting diodes (LEDs)

Green LED = Status indication “Online”

Blue LED = Status indication “Offline”

Orange LED = Status notification “Warning”

Red LED = Status notification “Error”

4.4.1 What do the keys mean?

In online mode, only the “Offline“ key has a function. By pressing it, the printer can be switched offline.

The Quick key

The Quick key, too, can only be used in offline mode when “Offline” is marked.

The Quick key is assigned to two functions:

1: Single-key function:

Pressing the **Quick** key calls up the quick menu directly and at any time for fast operation of the device.

2: Combination function:

When the Quick key is pushed and held while another key is pressed, the second function of the selected key is called up.

4.4.1.1 Single-key function

Pressing the **Quick** key calls up the quick menu directly and at any time for fast operation of the device. In doing so, always the topmost position is chosen.

With the navigation keys **Arrow-Up** and **Arrow-Down**, navigation within the quick menu is possible.

By pressing the **OK** key, the selected menu item can be chosen and executed.

4.4.1.2 Combination function

Quick + Home = **?** (Help function)

Within the menu, a help text relating to the current menu position is displayed. With the **Arrow-Up** and **Arrow-Down** keys, this help text may be scrolled upwards and downwards.

With the Cancel key, the help text can be removed.

Quick + Arrow-Up = **Test Print**

A test print with the current settings is carried out. If the key combination is called up from a menu item, then you return to this menu item after leaving the test print. If the key is pushed briefly, then, similar to the paper key, only one test print is performed and afterwards you return to the calling display again. If the key is pushed for a longer period, a continuous test print is executed. This test print may be discontinued using the **Cancel** key; the previous display is shown again.

Quick + Arrow-Down = **Clean Heads**

A sheet is fed, and with the currently-set paper length a bar pattern is printed onto the sheet. If certain print units have been deactivated, then also during this printout the print units are deactived. If the key combination is held pressed for a longer period of time, then a bar pattern is printed with all print units.

Quick + Arrow-Left = **Run Paper**

If the key is pressed briefly, then only one sheet is fed, and you return to the calling display. If the key is pressed for a longer period, then a continuous paper run is started. This paper run can be discontinued using the **Cancel** key, and the previous display is shown again.

Quick + Arrow-Right = **Paper Length** (Measuring paper length)

With this key combination, the length of a paper sheet may be measured. Subsequently, the measured length is indicated in the display. If the combination is pushed for a longer period, then the measured length is locked to prevent it from being overwritten by the software.

Quick + Arrow-Ok = **Online** (changing mode)

Quick + Arrow-Cancel = **Offline** (change mode)

Single-key function:

If the **Quick** key is pressed for longer than 3 seconds within the menu structure, then the currently-selected menu item is incorporated into the quick menu at position 1. If subsequently the **Quick** key is briefly applied, the quick menu is displayed, and the newly-added entry is indicated at first position.

4.4.2 Key combinations

Power on	Home	Quick	OK	Cancel	Down	Up	Left	Right	Description
X		X							Reset of the settings, except for the mechanical settings
X	X								Highest reset
X			X			X	X		Firmware download without starting the application
X		X	X			X	X		Firmware download

4.5 The Display

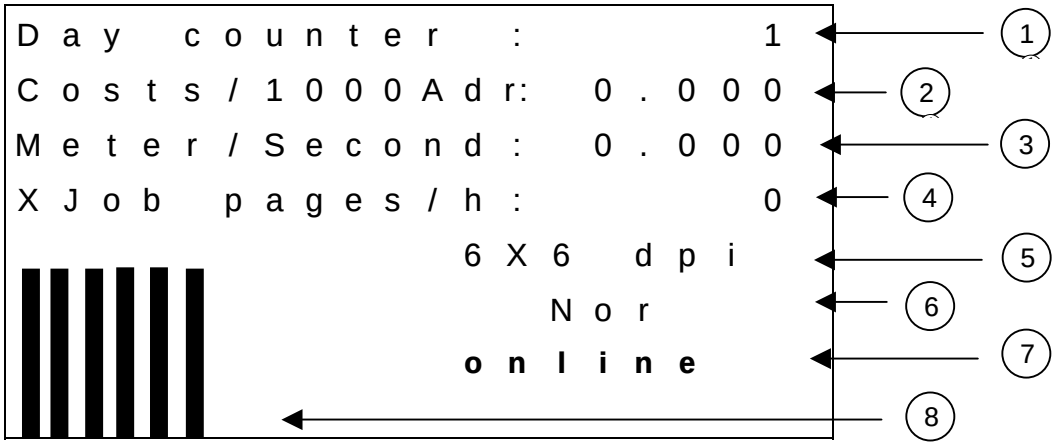


Figure 4-3: Display indications

	Meaning of the displays
1	Counting all printed pages in online mode, after switching the device on
2	Averaged ink costs for the respective print job
3	Averaged transport speed in metres per second
4	Averaged throughput of the respective print job
5	Print resolution in dots per inch
6	Indicates the print modes Reverse (i.e. rotated by 180°) or Normal
7	Indicates whether the printer is in offline or online mode
8	Cartridge ink-level indication

Change of indication of:

Day counter, job counter or service counter

Ink costs per job, costs per 1,000 sheets or sheets per cartridge

Metres per second – speed change

Sheets per hour, current throughput for this job per hour

Print quality – adjustment of the print quality

Changing from “NOR“ to “REV“

Changing the ink level indication

is possible

if you mark the respective field in offline mode and change the indication by using the navigation to the left or to the right.

Afterwards, use the “Online” key to go back to online mode.

Caution: In the topmost menu display, the change back to the online mode is only possible if “Offline” is marked and the “Online” key is pressed then!

Online means the printer can receive and print data from the PC.

The offline mode is necessary for executing functions of the printer and for setup purposes.

Not always all texts of the display are available in all languages; therefore, they are given in English.

4.6 Overview of the External Terminals

1: Connection for optional tower Lamp (not yet available). Meaning:
Online/ready (green lamp), offline (red lamp) and error (alternate blinking)
2: Serial interface to the RENA Base (start, stop & speed)
3: Serial interface to the RENA Centaur system
4: Serial interface to the RENA Dreamfeeder (start, stop,
speed and gap determination)

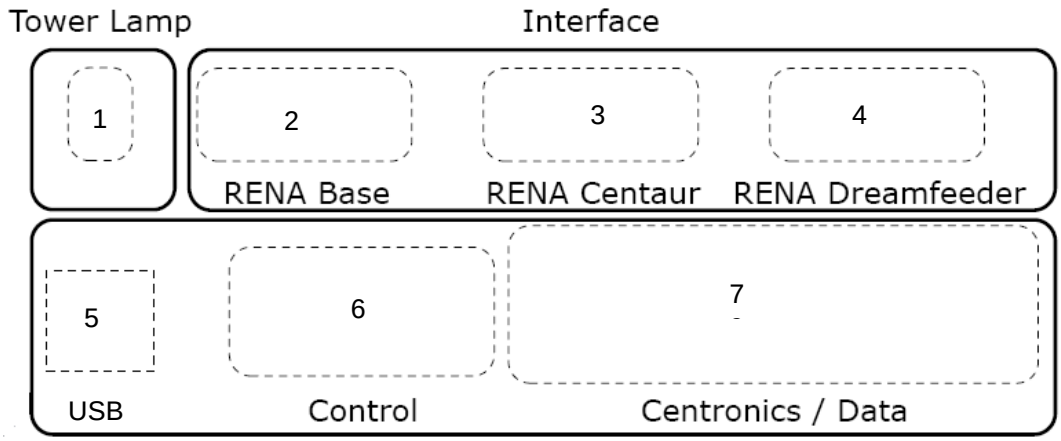


Figure 4-4: External terminals

5: USB interface to the PC for sending print data, etc.
6: Control serial interface to the PC (e.g. feedback print status)
7: Centronics, parallel interface to the PC

A: Panel, connection for the external keyboard
B: 18 F for the connection of the FBM Feeder 18 F
C: AUX feeder connection
D: Relay 1: Relay output for controlling external feeders or other machines
H: In 1 – signal input, e.g. for double-sheet check or paper monitoring
J: RENA OUT connector for external RENA devices
K: RENA Extern, connector for external emergency stop switches

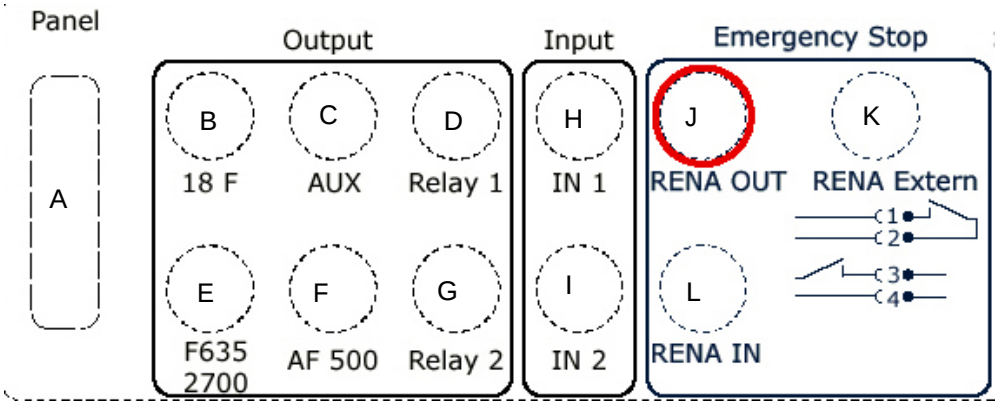


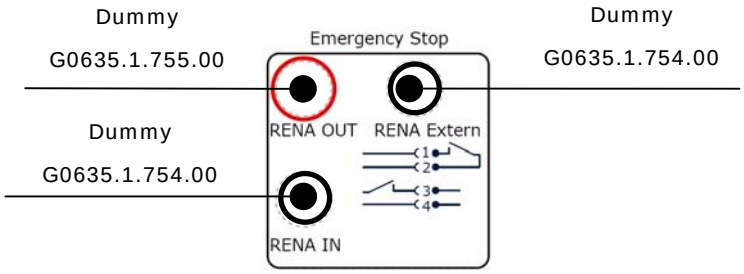
Figure 4-5: External terminals 2

E: F635 / 2700 connector for the RENA Dreamfeeder or Streamfeeder
F: AF 500 connector for the Streamfeeder AF500
G: Relay 2: Relay output for controlling external feeders or other machines
I: IN 2 signal input, e.g. for double-sheet check or paper monitoring
L: RENA IN, connector for external RENA devices

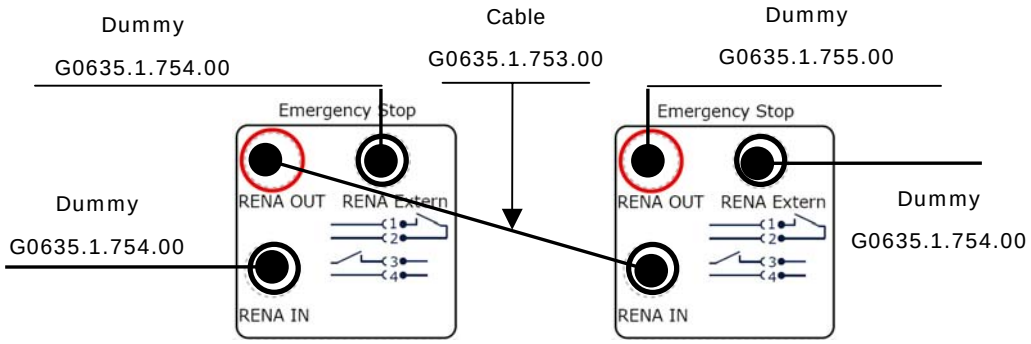
4.7 Description of the Emergency Stop "Loop"

Description of the different options

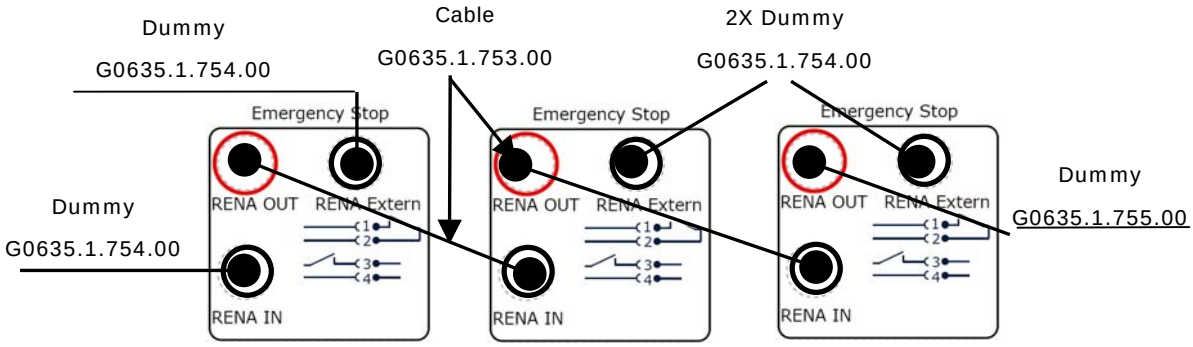
- **Using as a single machine:**



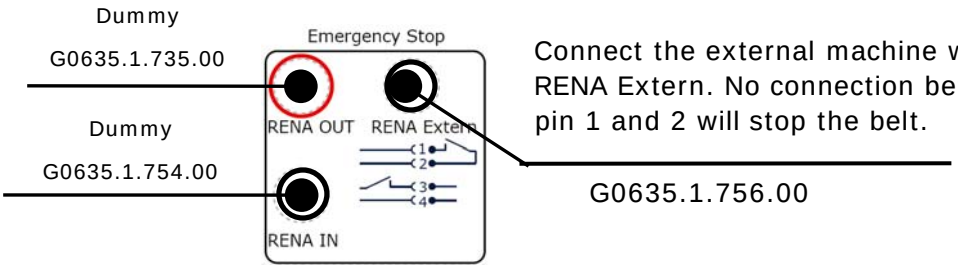
- **Using two RENA machines:**



- **Using more RENA machines:**



- **Using a non RENA machine:**



	If you don't connect the emergency stop (loop) with another machine(s) you have to plug in all three dummy plugs in the correct place.

	The first machine in an emergency loop should be the printer. Printer – RENA OUT: Wiring to the next machine Printer - RENA IN: Dummy Plug (G0635.1.754.00)

5 Startup and Operation

5.1 Inserting Ink Cartridges

Press the key (7) “Offline” and afterwards the key (2) “Quick”. With the “downwards” key (6), select “Exchange Cartridge” and confirm with “OK”. Now, the prints units move to the centre position of the printer and you can comfortably exchange the cartridges while the protective cover is open.

After releasing the stop lever, the used cartridge can be lifted out upwards.

After the new ink cartridge has been inserted properly, close the protective cover again.

Confirm using the “OK” key; the print heads drive back to the service station.

Do only use the following cartridges:

black ink: K6002.011

black ink, fast-drying: KH-C8842A

red, green, blue ink: KH-6168A, KH-6169A, KH-6170A

Important note:

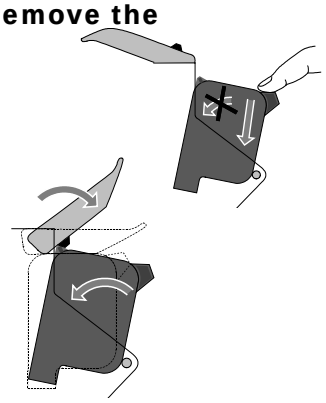
To ensure a safe contact between the ink cartridge and the electronics of the DDP at any time, the stop lever has two functions:

- **Defined tilt-in of the ink cartridge into its final position**
- **Safe interlock during operation**

As a consequence, the ink cartridge may not be tilted into its final position by hand.

When inserting the cartridge, it may only be put into the holder and pushed downwards from above and in straight movement without applying any rotating or turning motion. Before locking the stop lever, the ink cartridge is still in a slightly **inclined** position. The stop lever then tilts the cartridge into its final position.

- **Open the stop lever completely.**
- **Take the ink cartridge out of the packaging and remove the protective strip.**



- Insert the ink cartridges one after another with the print field facing downwards – do **not** push in the direction of the stop lever.

- Lock the stop lever in direction of the arrow; thus, the ink cartridge is tilted into its final position, and the electronics contact is established correctly.

5.2 Switching-on DDP

After you have entirely assembled and connected all cable connections, you may switch the device on.

Before a first printout can be made, the following steps of this chapter must be executed. To enable you to perform all necessary entries at the device, first of all the operator panel and display are described.

Switch-on the DDP using the power switch (left-hand device side).

In quick succession, the following displays will be shown at the DDP:

Loader 01
Version#1.1.XX#

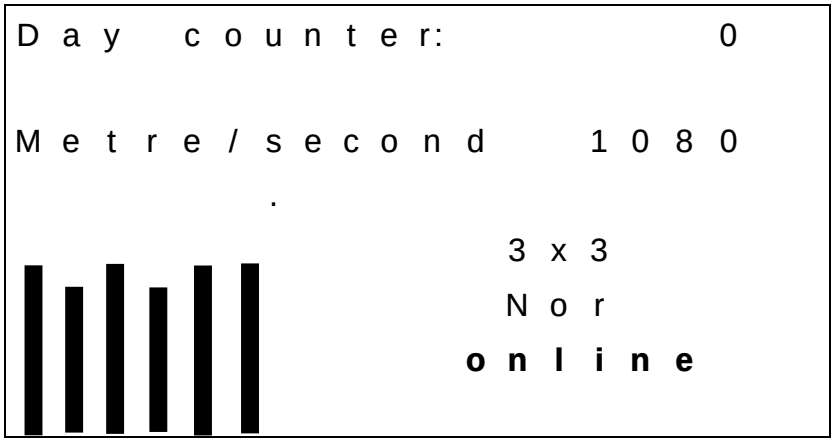
Starting Aplication
3.6.00 –PPC

Printer Initialisation

Printer
Dreamfeeder online
At Serial Port Term.

This notification will only be displayed if a Dreamfeeder is connected “offline”.

After completed initialisation, the following display appears:



Warning when starting

In case the cartridges have not yet been inserted or were inserted incorrectly, during initialisation the following warnings may be shown:

"Check all cartridges U2" Start to continue

a) This means that at print unit U2 no cartridges have been inserted.

· However, with the "Online" key you may switch to online mode.

"Check Cartridge 1 U2" Start to Continue

b) This means that cartridge 1 of the print unit U2 is defective or has not yet been inserted.

· However, with the "Online" key you may switch to online mode.

· Eliminate the causes for the warnings; insert the cartridges correctly.

5.3 Position and Dimensions of the Print Media

The maximum dimensions of the print media are:

At right angles to transport direction (height): 355 mm (13.97 ")

in transport direction (width): 420 mm (16.53 ")

The conveyor belt may be used, as shown in the figure below, within a height of 355 mm. For higher print media or if less than 22.5 mm of margin remain, there is the danger of a paper jam.

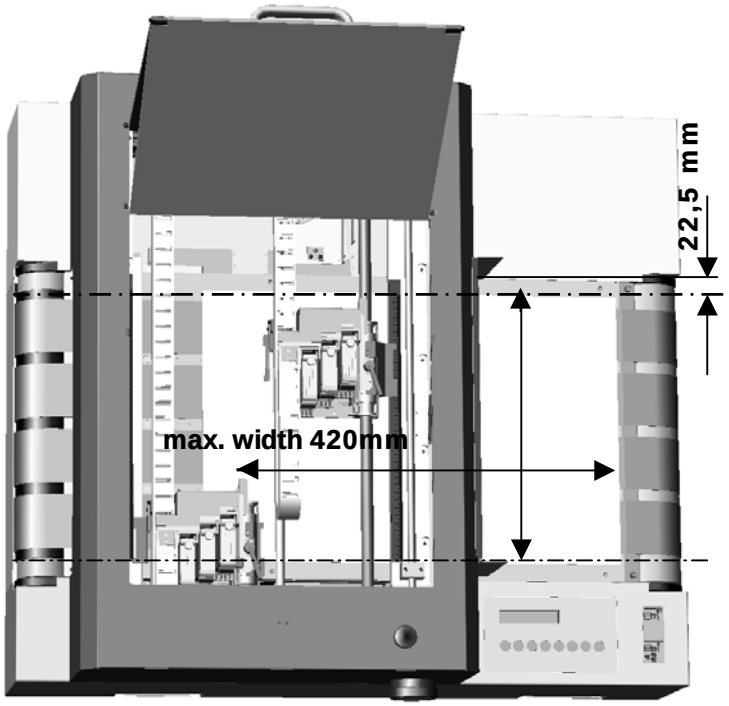


Figure 5-1: Dimensions of print media

5.4 Adjusting Printer to the Print Media

To ensure that a correct and sharp print is produced on the exact position of the print medium, you have to adjust the distance from the nozzle area of the cartridge to the print medium. Also, the position of the print medium must be entered (OFFS. PAP).

Print distance

Between the surface of the print medium and the distance plates of the print units, there should ideally be a distance of approx. 0.8 mm.

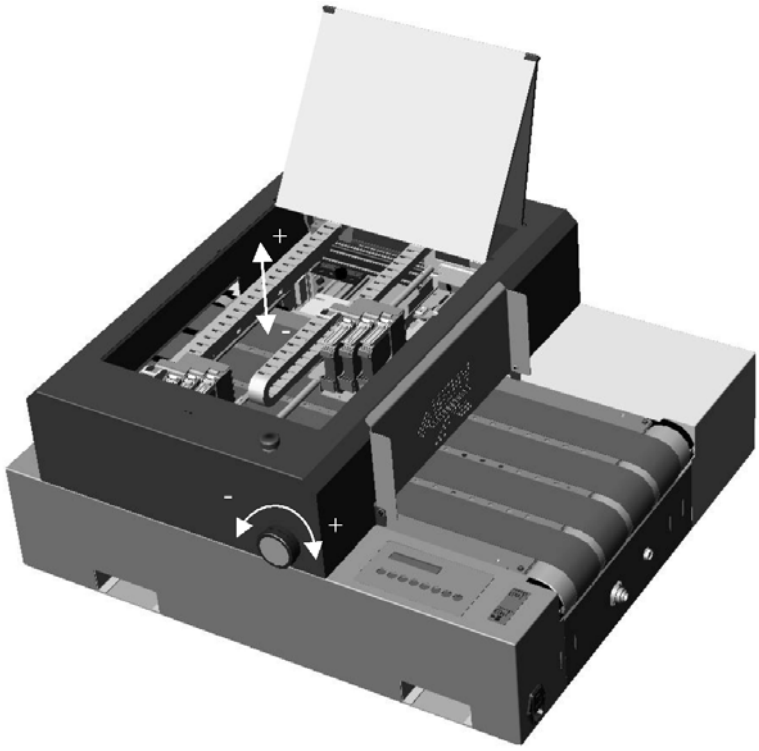


Figure 5-2: Setting the print to the print media thickness

· Move the print units in the Model 3630 forwards by pressing the ***Quick*** key and ***Service position*** in succession.

· Open the cover of the printer.

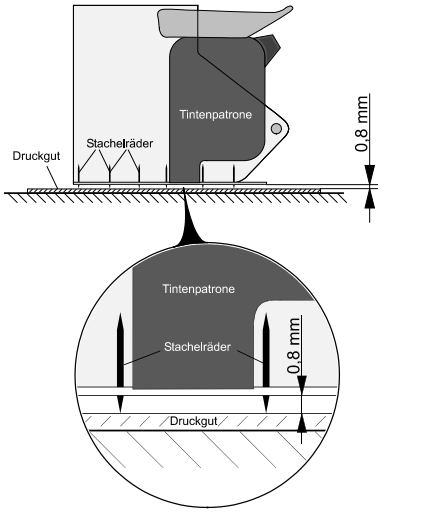


Figure 5-3: Recommended thickness

· Measure the thickness of the print medium and put it onto the feed area of the belt afterwards.

· For lifting and lowering the print frame, use the scaled hand wheel. The numbers on the hand wheel refer to millimetres, the graduation lines refer to 1/10 mm.

· Lift the print frame until the print medium can pass under the print units without danger. Go by the scale and adjust a slightly higher value.

· Afterwards, pass through the print medium under the print units by hand and, in doing so, ***carefully*** lower the print unit until the correct distance is adjusted.

· In case you should hear a whirring or rattling noise when manually passing through the print medium under the units, too much force is exerted on the sprocket wheels. Increase the distance until the noise is no longer heard.

· Remove the print medium and close the cover.

· Return the print units to their parking position by pressing ***OK*** to prevent the ink in the cartridges from drying up.

5.5 Entering Position of the Print Media

The position of the print medium on the conveyor belt is essential information for the printer. According to this value, the print units are aligned. The value differs depending on the situation.

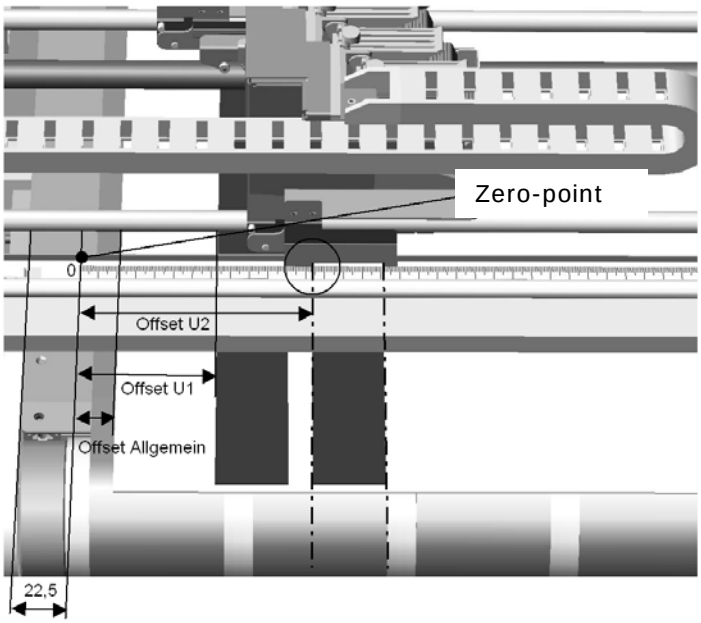


Figure 5-4: Position of print media

The position of the print medium is described by means of the offset. The offset is defined by the distance to the zero point. To determine the value, two scales are to be found in the print frame. If the print medium lies below the scale, the offset may be taken over directly. Thereby, the “Offset Allgemein” (general offset) describes the distance to the print medium edge; the “Offset U1” describes the distance to the print area of unit 1, and the “Offset U2” describes the distance to unit 2.

· Supply a print medium by means of the separator and

carefully shift the conveyor belt of the DDP by hand until the print medium lies below the scale.

· Read-off the offset (see graphics above) from the scale.

The entry of the offset may be performed in two ways:

a) Entry of the value in the user program FlexMail.

b) Value entry at the printer itself as follows:

Note: the entry of the value at the printer is required if the

test print function should be used. This is particularly recommended for initial operation.

In other respects, it is more recommendable to perform the entry using FlexMail.

· Switch to offline mode by pushing the ***Offline*** key.

· Press the ***Home*** key to change to the menu level.

· Then change to the submenu “Printer Configuration” and select the menu item “Distances”.

· In the menu “Offset Paper”, the read-off value must be entered in mm.

5.6 Checking the Paper Transport

Length measurement

Change to offline mode by pressing the ***Offline*** key.

Measure the length of the medium to be processed by pressing the ***Quick*** + ***Paper Length*** (5) keys.

Compare the shown value to the actual length value. If the two values diverge (more than 3 mm), an incorrectly adjusted paper feed may be the cause. In case that the software sends wrong paper length values, the paper length may be locally locked in the device. Press the key for paper length measurement for a prolonged time and confirm.

Transporting an individual medium

- Switch to offline mode by pressing the ***Offline*** key.
- Push the ***Quick*** + ***Run Paper*** (4) keys. The medium in the stacker is drawn in, transported below the print units and ejected.
- The paper transport is stopped when pressing the ***OK*** key (8) again.

5.7 Adjustment of a Print Rotated by 180°

It is basically assumed that the print image is printed in correct positional arrangement, i.e. readable from the operator side.

If it is required to carry out printing rotated by 180°, this may be done in two ways:

a) Entry at the operator panel

· In case you are online, go to offline mode using the ***Offline*** key.

· Apply the downwards or upwards navigation keys until you reach the “NOR” display. By pressing the “Right” navigation key, the display changes to “REV”, and printing is executed rotated by 180°.

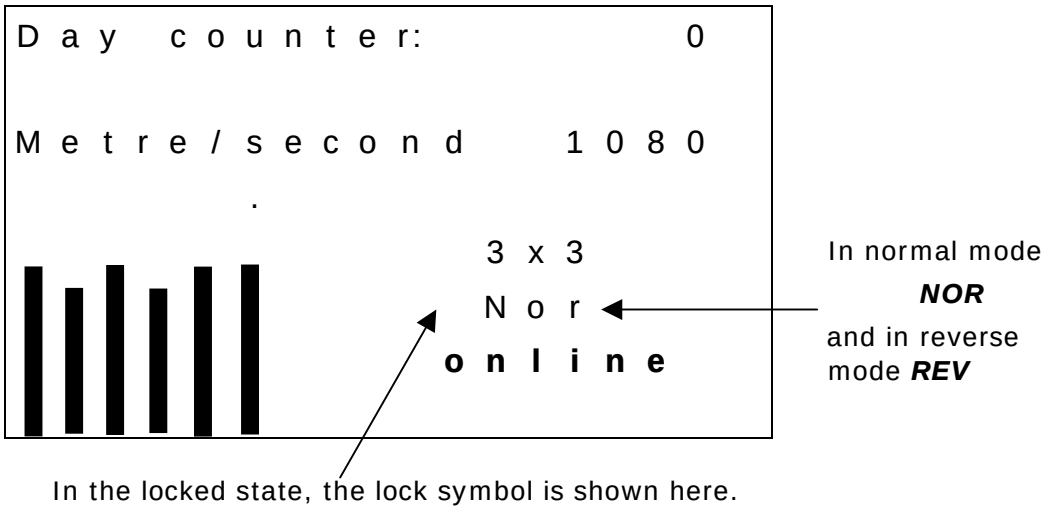
Note for the function for alignment change:

The selected alignment may be overwritten by the PC. If the “***OK***” key is held pressed for approx. 3 seconds, a “lock symbol” is shown in the display.

This indicates that the alignment can not be overwritten by the PC user program.

· Apply the “Online” key and switch the DDP online again.

Your display may look like the following:



b) Via the driver in the user program (see driver manual)

5.8 Width and Height Measurement of the Print Media

The width and height measurement is essential and must also be performed at each modification of the print media width.

· Put a print medium into the separator.

· Switch on the conveyor belt.

· In case the DDP is not in offline mode, apply the ***Offline*** key.

· Push the ***Quick*** key to change to the “Quick” menu.

· Select “Measuring paper length” in this menu.

· Press the “OK” key for as long until an “L” (“locked”) is displayed.

This “L” indicates that the width can not be overwritten by the PC user program.

The DDP expects the passing print medium whose width is measured and briefly indicated.

· Read-off the displayed value of the measured width.

Compare the measured width with the actual width of the print medium and check for conformity.

Next, you are asked to measure the paper height.

· The DDP expects a print medium which is rotated by 90° in order to measure its height. The medium must be placed on the conveyor belt manually.

· Read-off the displayed value of the measured height.

Compare the measured height with the actual height of the print medium and check for conformity.

In case the width or height measurement is not correct, check whether the paper light sensor is soiled.

5.9 Test Print

Using the test print function, the print image of the DDP can be checked and, if necessary, adapted. You also require the test print for calibrating the print units.

The benefit of the test print is that the check and setup of the print can be executed independent of the PC and the user program.

To enable the function to be started, the print media feed must be ready for operation.

· Switch to offline mode.

· Quick + Arrow-Up = **Test Print**

With the current settings, a test print is executed. If the key combination is called up from a menu item, then you return to this menu item after leaving the test print. If the key is pressed briefly, then, similar to the paper key, only one test print is carried out, and afterwards you return to the originally calling display again. If the key is pressed for a longer period of time, then a continuous test print is performed. This test print may be discontinued using the **Cancel** key, and the previous display is shown again.

Caution: the test print is always executed at centre position to the conveyor belt! Ensure that the print media are fed accordingly. The position of the rack cannot be captured and must be considered by the operator.

Correct test print with two print units:

Figure 5-5: Test print

Test print not satisfactory:

· test print exhibits gaps – print nozzles are not free,
clean the print nozzles by means of purging.

· test print does not start at the paper margin as it is usually expected
– has a width measurement been performed?

· test print is misplaced, either within itself or between the individual print units
– calibrate the print units as described in the following

6 Calibrating the Print Units

Unlike printers with only one moving print unit, at the Digital Desktop Printer all print units are standing still during printing. Therefore, an accurate adjustment (calibration) of the cartridges among each other is required to guarantee a print image free of offset and distortion.

Depending on the respective deviations from the optimum print image, different calibrations may become necessary.

6.1 Calibrating the Vertical Distances of the Print Units

To make sure that a seamless print is continued between the print units, the vertical distances must be calibrated.

Figure 6.1: Calibration vertical

The necessity of a calibration becomes visible when a gap or overlapping of two bars, each belonging to one print unit, is detected in the test print.

The calibration is performed in offline mode.

· Switch to offline mode via the ***Offline*** key.

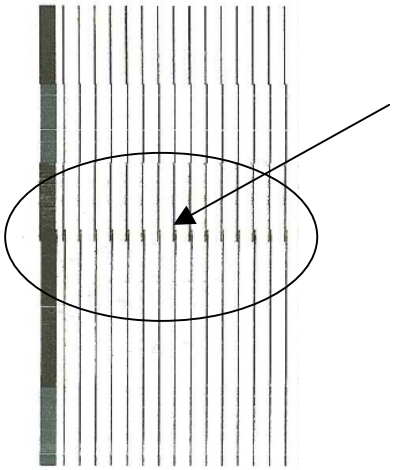
· Press the ***Home*** key to change to the menu level.

· Then change to the submenu “Printer Configuration” and select the menu item “Adjustment Gap”.

· In this “Vert. Corr.” menu, a value between +48 and -48 may be entered. One step = 0.08 mm (= 1/300’’).

Positive values shift the print field of a print unit downwards, negative values shift it upwards.

Set the required value and press the ***Quick + Test Print*** keys at the same time to receive a test print.



EXAMPLE:

This is an extract of a test print.

In this example, an overlapping is visible.

Enter a new (higher positive) value and repeat the process until the offset or the overlapping is no longer present.

6.2 Mutual Calibration of the Cartridges

(CARTRIDGE CORR / HORIZONTAL)

This kind of calibration can be necessary since a completely tolerance-free production of a print unit is not possible. Slight deviations due to manufacturing tolerances as well as tolerances with respect to the ink cartridges can be balanced by the software of the control device.

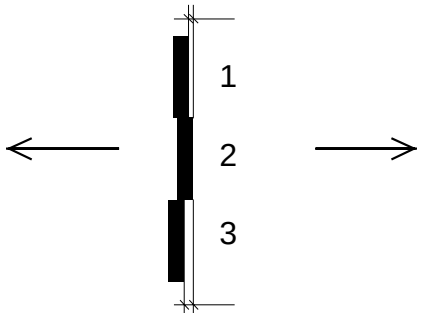


Figure 6-1: Calibration horizontal

The necessity of a calibration becomes visible if the bar on the left-hand side of the test print exhibits an offset B and/or an offset C.

· Change to offline mode and press the ***Home*** key to reach the “Printer Configuration” menu.

· Apply the downwards or upwards navigation key until you reach the “Adjustment Steps” display. In this menu, you can synchronise the distances of the print units U1 to U2 and the cartridges Cart. 1 to Cart. 2 and the cartridges Cart. 2 to Cart. 3.

· By means of the upwards or downwards key, navigate to the unit you wish to calibrate and confirm with the ***OK*** key.

This value is saved, and a test print is started when pressing the ***Quick + Test Print*** keys.

Options of selection:

Correction Distance U1-U2

Correction Cartridge 1-2 of U1

Correction Cartridge 2-3 of U1

Correction Cartridge 1-2 of U2

Correction Cartridge 2-3 of U2

Value range:

+24 to –24, one step = 0.08 mm (= 1/300 “)

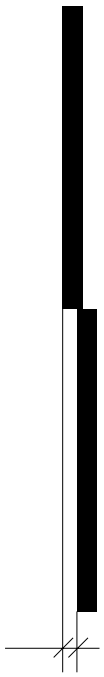
Positive values shift the print field of a cartridge to the left, negative values shift it to the right. Initially, begin with slight corrections.

· Now perform a test print again, check the printout and continue to carry out corrections. Repeat the process until the offset is no longer present.

The calibration must be executed for all cartridge pairs which show an offset until all bars in the test print are free of distortions or displacement.

6.3 Mutual Calibration of the Print Units

(CORR. DIST. U1-U2)



Provided that the foregoing calibration has been executed, a mutual offset between the cartridges can be cleared.

A calibration is required if the print image exhibits an offset D.

Change to offline mode and press the ***Home*** key to go to the “Printer Configuration” menu.

· Apply the downwards or upwards navigation key until you reach the “Adjustment Steps” display. In this menu, you can balance the distances of the print units U1 to U2 and the distances of the cartridges Cart. 1 to Cart. 2 and Cart. 2 to Cart. 3.

· Navigate using the upwards or downwards key until you reach “Corr. Dist. U1-U2” and confirm with the ***OK*** key.

Value range:

+48 to –48, one step = 0.08 mm (= 1/300 “)

Positive values shift the print field of a print unit to the left, negative values shift it to the right.

· Adjust the correction value with the upwards or the downwards key as required.

· Apply the ***OK*** key; the value is saved.

· Now, carry out a new test print and check the printout. Repeat the process until the offset is no longer present.

· A calibration must be performed if an offset is present.

7 General Information

7.1 Exchanging Ink Tray

The purging of the print nozzles is executed shortly after leaving the parking position. The ink drops which are left during this process are collected in ink trays.

The ink trays must be exchanged in regular intervals. The intervals heavily depend on the frequency of purgings. Basically, an exchange is required after approx. 10,000 purgings.

Since the number of purgings can only be roughly estimated, a **regular visual check** should be performed. The exchange is necessary if there is a significant amount of ink in the tray.

There is an ink tray for each print unit. The tray must be exchanged as follows:

For exchanging the ink trays, move the print units into the service position. Go to offline mode, then to the “Quick” menu and confirm “*Service Position*”.

The tray is located on a carrier plate. The whole carrier plate (1) is exchanged.

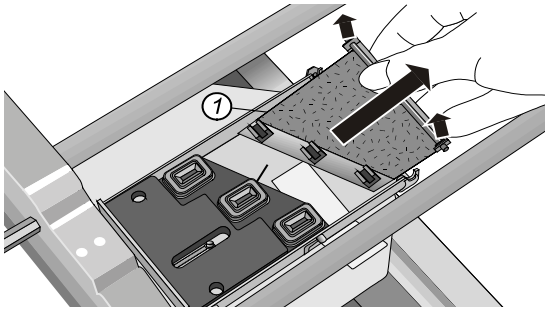


Figure 7-1: Exchanging Ink Tray 1

- Lift out the carrier plate (1) from the locking at the front edge and take it out.

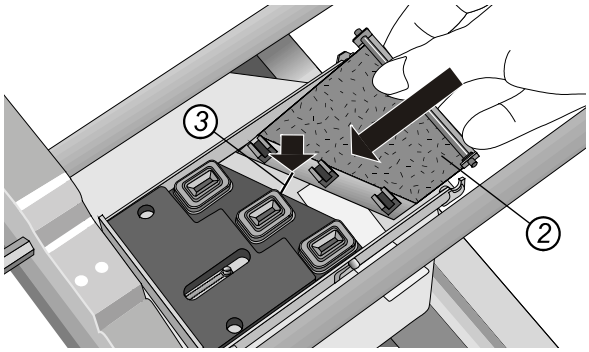


Figure 7-2: Exchanging Ink Tray 2

Feed in the new carrier plate (2) under the spring wire (3). The spring wire (3) is important for the function and must always be located above the carrier plate.

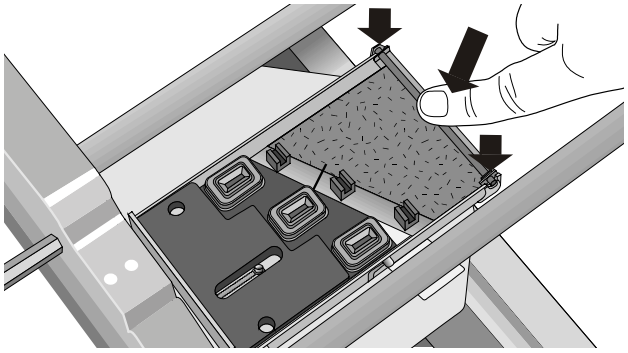


Figure 7-3: Exchanging Ink Tray 3

Push the axis of the carrier plate (2) into the locking.

Figure 7-4: Ink tray new and used

Note: When inserting, do not apply any force at right angles to the service station. Otherwise, the fastening bracket could deform causing the sealing caps to not be able to seal correctly. The fastening bracket should be prevented from bending; therefore, when inserting the sealing cap carrier, support the bracket with your finger from below.

7.2 Resetting the Ink Counter

In offline mode, change to the ink level indication using the “Arrow Left“ key. If one of the bars is marked, the ink level of the respective cartridge is indicated in the display in %. Using “Arrow-Up” or “Arrow-Down”, the current value can be entered.

If these keys are pressed for a longer time, then the display shows 10-% steps.

With the “Online” key, you go return to online mode again.

7.3 Indication for Ink Cartridge Exchange

```
Day counter:                0

Metre/second          080

                        3x3dpi
                        Nor
                      online
```

If less than 5% of ink remain in the cartridge, the ink level indication is no longer visible, and at a value of 0%, the following notification is shown:

```
NO INK !!
CHANGE PRINTHEAD
```

In the “Error Level“ menu, it can be chosen how the printer should behave when a cartridge is empty.

Stop: Printer is stopped when the “No Ink“ display appears.

Ignore: Printer continues printing when the “No Ink“ display appears.

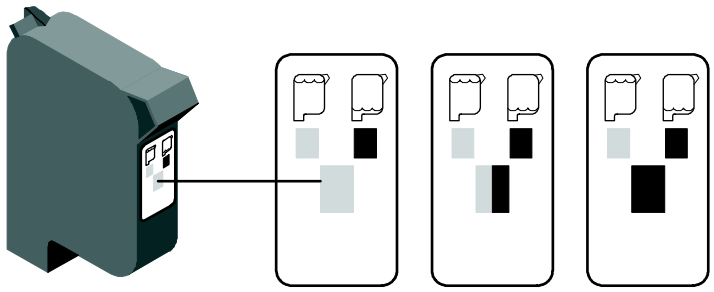


Figure 7-5: Ink level indication

7.4 Cleaning the Print Nozzles

The print nozzles are cleaned **automatically**

- prior to each test print
- after switching from OFFLINE to ONLINE

- selectively after 50, 100, 200, 300 or 1,000 prints. This can be adjusted in programming mode under “SPECIAL FUNCT.“, menu item „CLEANING CYCLE“.

7.5 Day Counter

Each printout is counted after executed paper ejection.

7.6 Service Counter

A test page counting includes the number of *Test-Service* prints executed in the device with respective paper ejection.

This counting is only performed in offline mode.

7.7 Job Counter

A job pages counting includes the number of data printouts *received* from the computer with respective paper ejection.

This counting is performed in online mode.

In the “Quick menu”, you can reset the job counter.

All counters are reset when switching the device off!

8 The Main Menu

The device is delivered with menu settings predetermined by the factory.

If you want to change, for example, the font type or the font quality, you must go to offline mode.

8.1 The “Quick“ Menu

By pressing the **Quick** key, you can directly and at any time call up the Quick menu for quick operation of the device.

By pressing the OK key, the action of the selected menu item can be executed.

By means of the **Arrow-Up** and **Arrow-Down** navigation keys, navigation within the Quick menu is possible.

PRINTER RESET

The printer is newly initialised and all data are deleted

DELETING WAIT LISTS

The printers and spoolers are deleted until there are no data left or pending

ADDRESS REPEAT

Up to 20 addresses of the print job can be re-printed

RESET JOB COUNTER

Resetting the print job counter

MEASURING PAPER LENGTH

Length or width measurement of the print medium

FEED SINGLE SHEET

Feeding a single sheet to determine the paper position

Necessary for the “Paper offset”

START PAPER RUN

Function for testing the paper run

SINGLE TEST PRINT

Printing an internal test address, depending on whether test address 1 or 2 is set

TEST PRINT

Continuous print of a test address until it is manually discontinued

CLEANING CARTRIDGES

Purging of all print cartridge nozzles

SERVICE POSITION

The printhead units are driven to the front into the service position

CHANGING CARTRIDGE

Both printhead units are approx. driven to the centre position of the device to enable the cartridges to be changed easily

MEASURING SPEED

Speed measurement of the conveyor belt and indication in mm/sec. or feet/min.

SHOW LAST ERRORS

Displaying the last error notifications

8.2 Menu Overview

When the printer is in offline mode, you may directly change to the superordinate menu by pressing **HOME**. By means of the navigation keys **Arrow-Up** and **Arrow-Down**, navigation within the **HOME** menu is possible. With the **OK** or the **Arrow-Right** key, the respective submenu can be selected.

Home = 1st menu level

Printer Config
Job Config
Service
Language
Settings

8.3 Printer Configuration

Main menu	Submenu	Options
Printer Configuration	Maintenance	Cleaning cycle
		Capping end
		Capping middle
	Distances	Position unit 1
		Position unit 2
		Offs. paper (mm)
	Adjustment gap	Vert. corr. U1-U2
	Adjustment steps	Correction print
		Corr. dist. U1-U2
		Corr. cartr. U1 C1-C2
		Corr. cartr. U1 C2-C3
		Corr. cartr. U2 C1-C2
		Corr. cartr. U2 C2-C3
	Boot defaults	Centaur search
		Text rotation
		Measuring unit

		PC programm
	Ink	Set ink system
		Cartridge optimisation
		Cartridge reset
		Heating cartridges
		Pre-heating cartridges
		Ink cost config.
	Error handling	Error-Level Font
		Level Pap-Jam
		Empty cartridge
		Horn
	I/O signals	Aux output
		Relay 1 output
		Relay 2 output
		Feeder stop
		Read & Print

8.4 Job Parameters

Main menu	Submenu	Options
Job parameter	Quality	6x6D, 6x3D, 3x6D, 3x3D,
		2x6D, 2x3D, 1x6D, 1x3D
	Transport param.	Paper speed
		Auto paper speed
		Paper gap
		Belt end job
		Belt middle
		Vacuum
	Layout	Alignment
		Paper size
		Left margin (mm)
	Font parameter	Font
		Interspace
		Character set
	Typ of barcode	Zip, bpo4, Kix,2/5i, EAN,
		Codabar, Code 39,128,
		Code 93, AUS4state,
		Canada, Off
	Paper sensor	Off, on
	Dos mode	Line mode
		HEX to ASCII

8.5 Service

Main menu	Submenu	Options
Service	Test address	No. 1, no. 2
	Hardware test	Display
		Key test
		RAM test
		RAM test endless
		NV-RAM test endless
		Encoder test
		Paper sensor
		Alignment horiz.
		Alignment vertic.
		Simult. print units
		Overlapping
		Correction print
		Cartridge print pattern
		Test cartridges
		LED/horn
	Configuration info	Firmware: (3.6.00)
		SerNr.: (63012070401)
		Feeder: (F2.21)
		Page no.: (2528)
		RAM: (64 MB)
		Hardware: (V16-0)
		DC: (5 A)
		TRP.DIR.: (R2L)
	Setting print	Manual / Feeder / Cancel
	Receiv. data print	Manual / Feeder / Cancel
	Character set print	Manual / Feeder / Cancel

8.6 Language

Main menu	Submenu	Options
Language	English, German	
	French., Ital., Span.	

8.7 Setting

Main menu	Submenu	Options
Settings	No. 0 - no. 9	

8.8 Explanation of the Individual Menu Items

Printer Configuration

Settings regarding the printer

Job Configuration

Settings regarding the print job

Service

Test routines for testing the hardware

Language

Language selection for the display

Settings

Storage of print-job-specific printer settings

8.8.1 Printer configuration

8.8.1.1 Maintenance

Cleaning cycle

Setting regarding the adjustment after how many prints the print nozzles should be cleaned.
Settings: 1000, 300, 200, 100, 50, off.

Capping end

Setting regarding the adjustment after how many minutes the print unit should return to the capping station after the end of the print job.

Capping middle

Setting regarding the adjustment after how many minutes the print unit should return to the capping station during an interruption of the print job.

The menu functions (Capping End and Capping Middle) are used if the printer works together with another device in online mode. The time period within which the print units return to the capping station can be delayed. This serves for the purpose that, in case of a paper jam in the preceding machine, some time will remain until the printer goes offline, the printheads return to the capping station, thus creating even more time delay.

8.8.1.2 Distances

Position unit 1

Positioning of print unit 1. Is normally controlled via the FlexMail program, but can also be entered manually.

The printhead drives the distance of the preset value in mm to the printing position. This value can be read-off at the spacer which is attached to the protection cover.

Position unit 2

Positioning of print unit 2. Is performed in the same manner as with printhead 1.

Offset Paper

Offset paper refers to the distance of the print medium to the back edge of the print area (22.5 mm, 0.88'' from the slide plate edge).

8.8.1.3 Adjustment gap

Vert. corr. print

To ensure that the print units continue the print image seamlessly between each other, the vertical distances must be calibrated.

A calibration becomes necessary when a gap or an overlapping of two bars, each of them appendant to one print unit, is visible in the ***correction*** print.

See chapter 5.6.1.1 Calibration of the vertical distances of the print units.

8.8.1.4 Adjustment steps

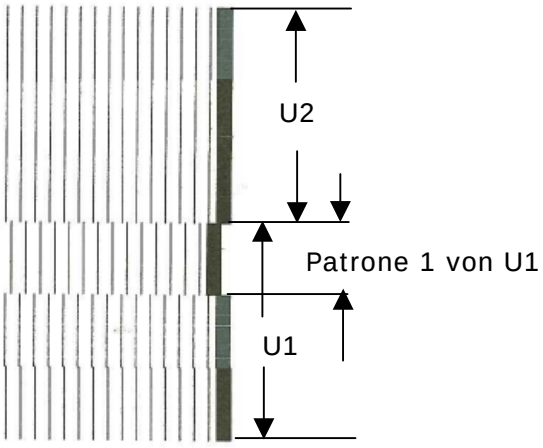
Correction print

Printing of a test page with horizontal lines in order to be able to detect and correct overlappings or shiftings.

Corr. dist. U1-U2

Possibility of correcting of the distance between print unit 1 and print unit 2 so that both print units are enabled to print above or below each other in the best possible way.

Corr. cartr. U1 C1-C2



The necessity for a calibration becomes visible if a bar of a cartridge exhibits offset during a test print.

Corr. cartr. U1 C2-C3

See above, but with cartridge 2 and 3 of unit 1

Corr. cartr. U2 C1-C2

See above, but with cartridge 1 and 2 of unit 2

Corr. cartr. U2 C2-C3

See above, but with cartridge 2 and 3 of unit 2

8.8.1.5 Boot defaults

Centaur search

Possibility of adjusting whether during the booting process there should be searched for a Centaur ink system. If this menu item is activated and no Centaur system is connected, the booting process will take a bit longer.

Text rotation

Adjustment regarding whether a printhead should print a rotated text (180°).

Measuring unit

Changing the indication of the unit of measurement from mm to inch (inch/mm).

PC program Standard / Special

“Standard” is for most of the windows applications (Word, Flexmail)

“Special” is for the software “Cobra”

8.8.1.6 Ink

Set ink system

When using large-volume ink cartridges, the appropriate setting must be performed to guarantee a correct calculation of the ink level.

Cartridge = Application of single HP 45A cartridges without ink tank system

HP Bulk system = application of passive ink tanks without electronic ink level detection and without pressure regulation

Centaur = Application of the RENA Centaur system with electronic ink level indication and pressure regulation

It is important always to select the correct cartridges or tank systems. Otherwise, the ink tanks could be damaged or the ink level indication may not be correct.

Cartridge optimisation

The optimum working point for all or particular cartridges is ascertained.

Cartridge reset

Resetting the ink counter(s):
all, U1, U2, no.

In the following submenu, one ink cartridge must be chosen:
all, Crt1, Crt2 or Crt3. By choosing “no”, you cancel the process.

Heating cartridges

Heating the ink cartridges: off, on, pre

Preheating cartridges

Here, the functions for preheating a cartridge or for the maintenance of a minimum temperature are switched on or off.

Ink cost config.

Configuration of the ink comsumption parameters. To enable a more accurate calculation of the ink comsumption and the costs, these parameters must be entered.

8.8.1.7 Error Handling

Fehler Level Font

Low or high

Level Pap-Jam

Min, Level 1, 2,3 or Max

Empty cartridge

Ignore or Stop

Horn

Off, short, long or interval

8.8.1.8 I/O signals

Aux output

It can be chosen between the options “def” and “spec”.

At the AUX interface, with the options

- „def“: the feeder signal is released
- „spec“: the light barrier signal is released

Relais 1 output

“Default” = to control a feeder

“Special” = to track a marked product and control a stacker (set distance / mm and pulse length / ms)

“Sort Toggle” is to control a batchkicker. The signal is set for as long until a second signal arrives and resets it.(set distance / mm between the 1st Unit and the batchkicker)

“Dry Timeout” is to control an IR or UV lamp. The signal is delayed in order to not switch off the lamp at the end of the job when there are still products under the lamp.

“Divert” to control a diverter (set distance / mm and pulse length /ms)

Relay 2 output

Default, special Puls, Sort Toggle, Dry Timeout, Divert (see above)

Second independent relay to be able to use another function than relay 1 in addition.

Feeder stop

OPTIONEN: standard / automat. / delayed

Option “**standard**“

The feeder stops only if the job is finished, a failure is detected or the “Cancel” button is used.

Option “**automat**”

The same feature as in standard. Additional stops the feeder if the paper transport goes to fast. After some printed pages this function is enabled.

If this function repeats from time to time you should reduce the feeder speed.

Option “**delayed**”

The feeder stops after the last page from a job was printed and an additional adjustable distance was managed.

Possibly some pages are feeded and runs unprinted through.

This function is created for applications where the feeder and the transport belt is only one unit. (Enveloping machine)

The adjustable distance is the menu item “DIST.BELT END” which only appears in the “delayed” option.

Factory setting (Default Rese) :Option “automat.)

Note:

The setting “Feeder Stop” is disabled if a RENA Feeder is detected via the serial port.

Read & Print

1.Option „**NoData Handling**“:
Defines the behaviour if a paper is detected, but no printdatas were received.
The following opions exists: „**Stop**“ / „Formfeed“ / „Relay1“ / „Relay2“

Stop:	Printer stops immediately and shows an error message. Selection with ESC-Sequence: E_c ! : 0 K
Formfeed:	Printer assumes a Formfeed, the next data record is deleted! Selection with ESC-Sequence: Ec ! : 1 K
Relay1:	Printer activates Relay1 after a configured distance. Selection with ESC-Sequence: E_c ! : 2 K

Relay2: Printer activates Relay2 after a configured distance
Selection with ESC-Sequence: E_c ! : 3 K

***Comment*: The selection of Relay1 or Relay2 forces the option:**
PRINTER CONFIGURATION / RELAIS1 OUTPUT
or
PRINTER CONFIGURATION / RELAIS2 OUTPUT
to „special“, if neither “special” nor “divert” was configured before.
Configured parameters („DISTANCE“ / „PULS WIDTH“) are further used.
Recommendation:
- first: configure paramter of Relay1 or Relay2.
- second: set “NoData Handling” to Relay1 or Relay2.

2. Option „**ID Feedback**“:
Defines whether a status-sequence (Feedback) via the Control-Port is sent if the page was marked with an ID. The feedback ist sent after the completion of the page printout.
Options: „off“ / „on“

off: Feedback is disabled (default)
Selection with ESC-Sequence: E_c ! : 0 I
on: Feedback is enabled
Selection with ESC-Sequence: E_c ! : 1 I

3. Option „**Serial Parameter**“: ALL System-Printer
Some serial parameters can be configured.

Parameters: „Baud Rate“ / „Protocoll“ / „Start/End Char.“

Baud Rate: Options 57600 / **38400** / 19200 / 9600
Protocoll: Options „Both“ / „XonOff“/ „Hard“ / „**None**“
Start/End Char: Options “**off**” / “on”
off: No STX-Character as Start-Char
Selection with ESC-Sequence: E_c ! : 0 J
on: STX-Character as Start-Char
Selection with ESC-Sequence: E_c ! : 1 J

Comment:
Default settings are marked bold.

These Settings are valid if the printer is in the mode „R&P“ or „R&P&V“ (displayed in the screen).
Enable Modi with ESC-Sequences

R&P: Selection with ESC-Sequence: E_c ! = A
R&P&V: Selection with ESC-Sequence: E_c ! : R

Disable: R&P oder R&P&V: ESC-Sequenz: E_c ! = C

8.8.2 Job Parameters

8.8.2.1 Quality

The following print qualitites are available:

1x3D, 1x6D, 2x3D, 2x6D, 3x3D, 3x6D, 6x3D, 6x6D

1x3D is the lowest print quality and therefore for the highest speed

6x6D is the highest print quality and therefore for the lowest speed

8.8.2.2 Transport parameter

Paper speed

Adjustment of the possible paper speeds:

1	152 mm/s	(5.98 inch/s)
2	304 mm/s	(11.9 inch/s)
3	406 mm/s	(15.9 inch/s)
4	508 mm/s	(20.0 inch/s)
5	812 mm/s	(31.9 inch/s)
6	914 mm/s	(35.9 inch/s)
7	1016 mm/s	(40.0 inch/s)
8	1422 mm/s	(55.9 inch/s)
9	1828 mm/s	(71.9 inch/s)
max	2032 mm/s	(80.0 inch/s)

The setting for the resolution takes priority over the setting for the speed. If a certain resolution only allows for a lower speed than it has been adjusted, then this lower speed is selected.

Auto paper speed

„on“. The DDP takes over the speed regulation of the feeder at the Plug&Print interface. In doing so, the speed is optimally adapted to the print data.

Paper gap

The gap between the products is controlled via the feeder; thus, the gap can be modified.

Belt end job

The adjusted time period indicates for how long the belt continues to run after the end of the print job. Possible settings: def, 1 min., 2 min., 3 min., 4 min., 5 min., off.

Belt middle

The adjusted time period indicates for how long the belt continues to run in the event of a disturbance during the print job (e.g. no paper feed).

Possible settings: def, 1 min., 2 min., 3 min., 4 min., 5 min., off.

Vacuum

8.8.2.3 Layout

Alignment

Adjustment of the print alignment
Nor means normal: the printout is readable from the operator view,
Rev means reverse: printing is performed with a rotation by 180°.

Paper size

Size of the print area or size of the paper:
EXEC, LETT, LEGA, LEDG, A3, A4, A5, A6, MONA, C10, INTD, C4, C5, C6, B4, B5, B5JI, INSD, CRD1, CRD2, HAGA, or USER.

With the USER option, the paper length can be adjusted,
maximum value 508 mm (20 inch).

Left margin

Adjustable left margin: 0 to 304 mm (0 to 11.9 inch). Mainly important for DOS applications.

8.8.2.4 Font parameter

Font

13 internal fonts can be used. Only important for DOS applications.

The following fonts are included:
Cour12, Cour12bo, Cour12it, Helv07, Helv10, Helv12, Helv12bo, Helv12it, Helv13, LetGot12, TmsRm12, Bru12, OCR-A.

Interspace

Distance between the characters: 0 - 90 dots

Character set

Adjustment of a country-specific character set:
PC8, Rom8, P850, ECMA, P8DN, ICEL, P852, P860, Lat5, USA7, UK7, Fra7, Ger7, Ita7, Spa7, Den7, Nor7, Swe7, SwN7, Por7.

8.8.2.5 Type of barcode

This menu contains various different kinds of barcodes.

The following barcodes are available:

Option	Barcode	Option	Barcode
Zip	Barcode USA	co39	co39 barcode
Bpo4	Barcode Great Britain	co93	co93 barcode
Kix	Barcode Netherlands	c128	c128 barcode
Cana	Barcode Canada	ean*	EAN barcode

2/5i	2/5 barcode	interleaved	off	no barcode
Coda	coda-Barcode			

*ean for European devices or upc for American devices.

If you confirm the barcodes "2/5i", "coda", "co39" or "c128" with the ENTER key, you will be offered the following parameter setting:

"SMALL WIDTH : 6"

SMALL WIDTH

You may set the width of the narrow line to a value of 1 up to 99 (dots).

LARGE WIDTH

After the setting confirmation in the menu field "SMALL WIDTH", the following display will be shown:

"LARGE WIDTH : 15"

You may set the width of the broad line to a value of 1 up to 99 (dots) (except for c128).

BARCODE HEIGHT

After the setting confirmation in the menu field "LARGE WIDTH", the following display will be shown:

"BARCODE HEIGHT : 50"

You may set the height of the barcode to a value of 1 up to 999 (dots).

8.8.2.6 Paper sensor

Off, on

If the paper sensor is off, then the light barrier signal is inhibited for almost the entire paper length and is not switched on until the end of the paper.

8.8.2.7 Dos mode

Line mode

Line mode off / 1-99 lines

Enables address separation by means of a particular number of line feeds.

Hex to ASCII

A „%“ as prefix for sent numbers interprets them as ASCII characters to also be able to print out special characters from Windows: on, off.

8.8.3 Service

8.8.3.1 Test address

Selection of 2 test addresses. Normally, test address 2 is a special test printout with which the accuracy of the encoder can be tested (by means of length measurement of the printout).

8.8.3.2 Hardware test

Display

Tests the graphics display. Various different characters are displayed in order to ascertain a correct function of the display.

Keys test

All keys that are pressed are shown in the display.

RAM test

All RAMs in the CPU are tested. In case of an error, this will be indicated in the display.

RAM test endless

The RAM test is continuously executed until it is manually interrupted.

NV-RAM test endless

Test of the “Non voltage” RAMs is executed continuously until it is manually interrupted.

Encoder test

Manual test of the encoder.

By means of turning the conveyor belt, the functionality of the encoder can be tested.

Paper sensor

Shows whether the paper sensor is free or not free.

Alignment horiz.

Print of a test page to see the alignment of vertical lines.

Alignment vertic.

Print of a test page to see the alignment of two printheads or of the cartridges among one another.

Simult. print units

Print of a test page to measure the distance when two printheads are printing at the same time.

Figure 8-1: Distance print units

On this test print, it can be seen that all print nozzles have ejected the ink simultaneously. Now, for example, the distance between the printheads can be measured.

Overlapping

Print of a test page

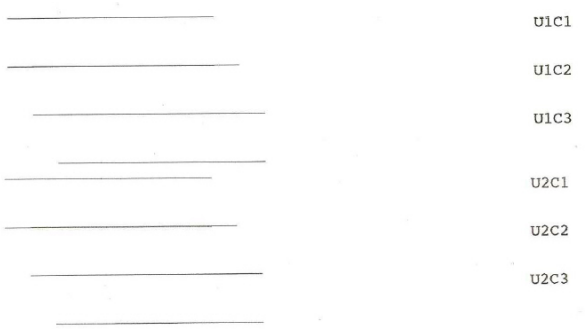


Figure 8-2: Overlapping

With the help of this printout, it can be seen whether the print cartridges print parallel to each other or if there are mechanical imprecisions. The topmost and the lowermost nozzle row of U1C1, U1C2, U1C3, U2C1, U2C2 and U2C3 is printed and ideally it should be one printed line each.

Correction print

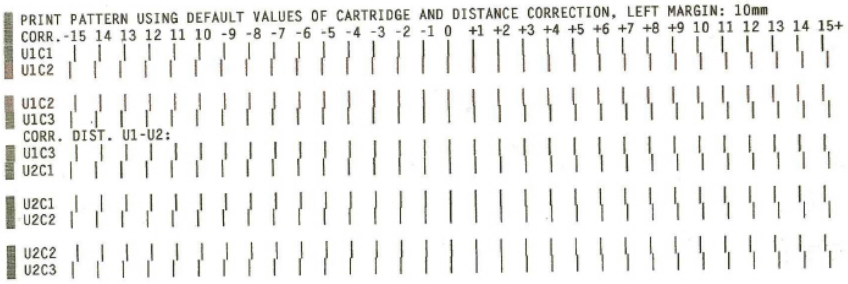
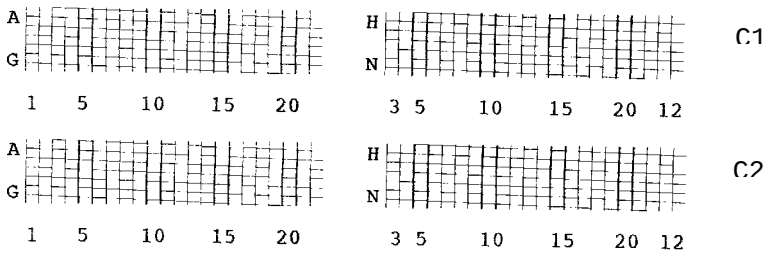

PRINT PATTERN USING DEFAULT VALUES OF CARTRIDGE AND DISTANCE CORRECTION, LEFT MARGIN: 10mm
CORR.-15 14 13 12 11 10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 10 11 12 13 14 15+
U1C1
U1C2
U1C2
U1C3
CORR. DIST. U1-U2:
U1C3
U2C1
U2C1
U2C2
U2C2
U2C3

Figure 8-3: Correction print

Cartridge print pattern

In multiple test prints, for all cartridges

a) the contacts with the nozzles become visible in a grid pattern,



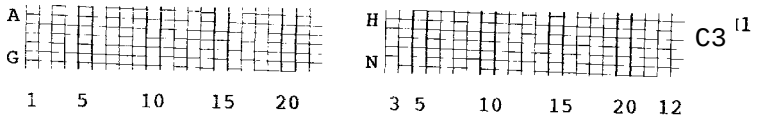
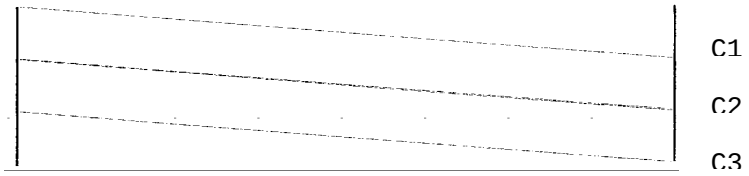
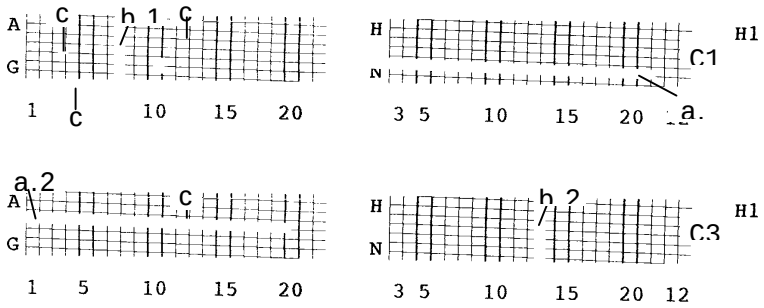


Figure 8-4: Cartridge print pattern

the contacts with all nozzles - actuated individually and one after another - are made visible in a continuous inclined line.





a.1 = no connection at contact „K“ (at cartridge C1)
a.2 = no connection at contact „B“ (at cartridge C3)

b.1 = no connection at contact „10“ (at cartridge C1)
b.2 = no connection at contact „16“ (at cartridge C3)

c = these nozzles are not clean

If a pattern or an inclined line exhibits gaps (see figure above):

Re-insert the cartridge into the holder.

Clean the cartridge using a damp cloth and remove possible ink graftings from the nozzles.

Clean the contacts.

Insert the new print cartridge.

Test cartridges

The cartridges are actuated, and with the feedback, the following parameters are displayed:

Pen ID OK: test of the ID of all pen drive boards

Missing Dots: checking whether all contacts or connecting lines to all cartridges are present

Cartridges Optimized: checking whether the “process of optimisation” has been executed at one, several or all cartridges

LED / Beeper

Function test for all light-emitting diodes and for the horn

8.8.3.3 Configuration Info

Firmware: shows the installed firmware version

Ser. No.: the stored serial number of the device

Feeder: shows whether a RENA feeder (firmware version including) has been connected

Page number.: not deletable page counter

Ram: shows the size of the working memory

Hardware: indicates the hardware version

DC: 5A

Trp. dir.: transport direction from right to left

8.8.3.4 Setting print

Printout of the 10 setting configurations; up to 9 sheets are required

8.8.3.5 Receiv. data print

At the Inp-Dump, all 96 kBytes of the receive buffer are printed with PC8 symbols

The entire printout requires approx. 80 sheets when using 2 print units. Prior to a Dump printout, switch the device off and then on again. Send the print job and then start the Dump printout. Using the ***end*** key, you can stop the process.

8.8.3.6 Character set print

Printing the adjusted character set including the special characters

8.8.4 Language

German, English, French, Italian and Spanish

From these 5 languages, the language for the display text including the submenus and the help texts can be selected.

Using the Arrow-Up or Arrow-Down keys, highlight the desired language and confirm with ***OK***.

The selected language is adopted; by pressing ***Home*** you return to the next higher level.

8.8.5 Setting

Selection of a configuration

For different applications, a proper configuration can be created each.

The configuration No. 0 is reserved for the factory setting. Here, no modifications can be executed.

The configurations No. 1 to No. 9 may be set individually.

When terminating the programming mode, the executed modifications are automatically saved in the selected setting no.

You may block the adjusted setting for printer commands from the PC by pressing the ***OK*** key for a longer time. (A lock symbol appears in the display.)

After switching the device off, the set configurations are maintained.

At a default (factory) initialisation (***Quick*** key is held pressed when switching on), all configurations are reset to the factory settings.

8.8.6 Initialization of the device

without configuration reset

To reach the factory configuration, select the option “No. 0” in the menu field “Setting” in programming mode. By pressing the “ENTER” key, the programming mode is finished. In the display, the indication "Set 0U" is given. The arranged configurations are maintained under the respective setting number (compare menu item “Setting”).

with configuration reset

To undo *all* modified values *and* configurations, switch the device off.

Hold the “Prog” key pressed when switching the device on again.

In the display, the following information will be given:

```
Model 3630
Default Reset
```

Now the device has assumed the factory settings again, and all configurations correspond to the factory configuration. The information “Set1U” is shown in the display.

8.9 Installing the Driver for Your Printer

Note:

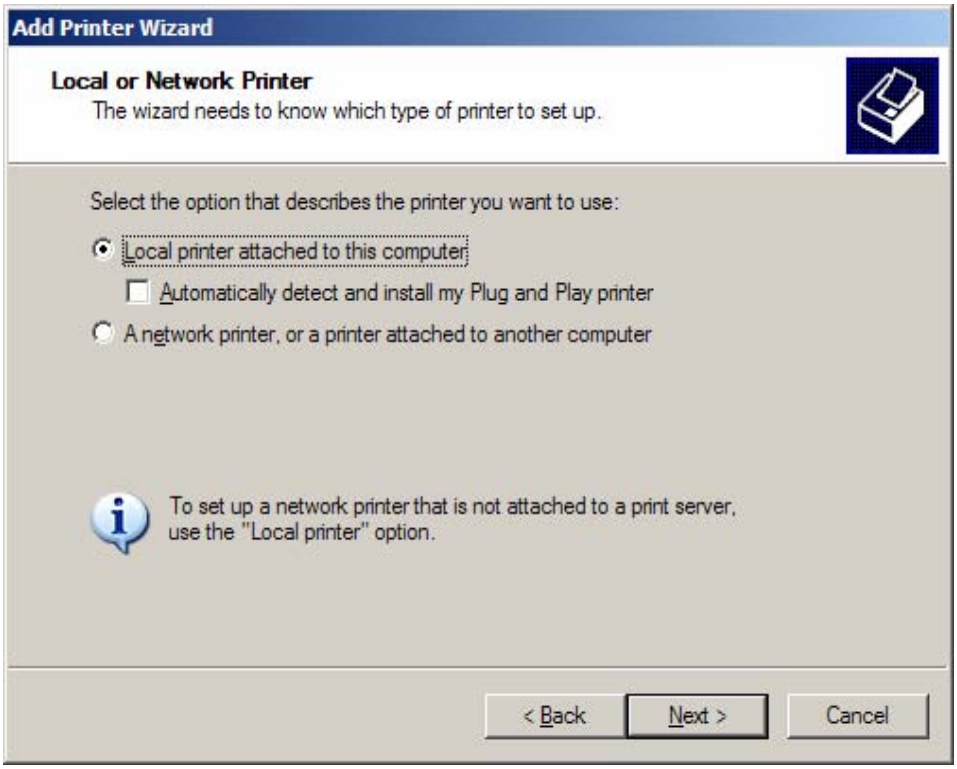
When several user accounts are used on the system, you must make certain that you have **Administrator Privileges**. According to the Windows security model, only the Administrator can install the driver.

1. Insert the CD labeled **Hasler Address Printer Installation.** The installation program should start automatically, if it doesn't, browse the CD and open the file named **Install_Menu**.
2. Select **>>Driver Installation** from the menu for your printer model.

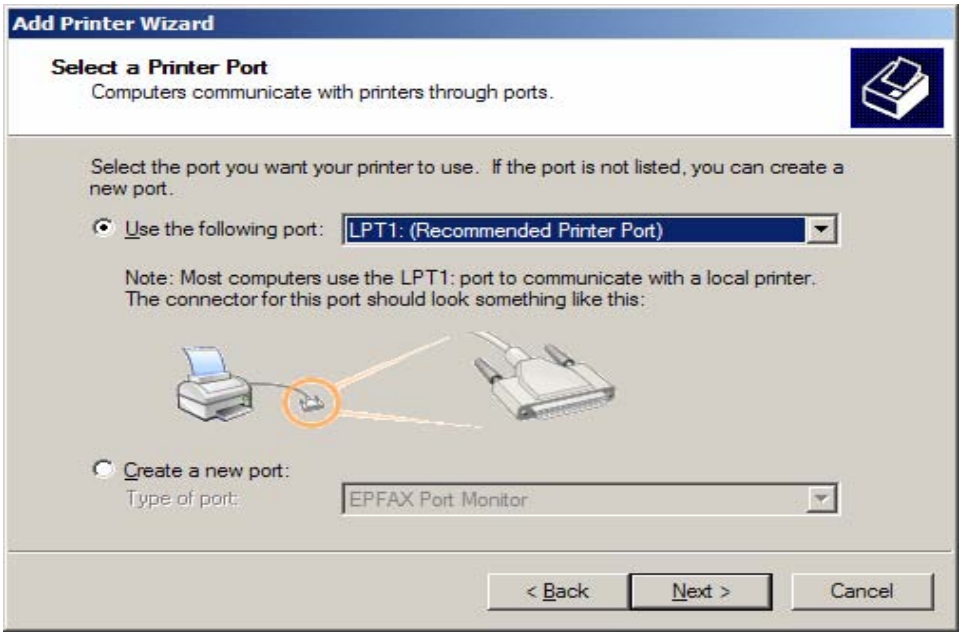
3. You will be brought to the welcome screen of the Printer Installation Wizard. The wizard will walk you through the process of installing the driver. Click **Next**.

Add Printer Wizard
Welcome to the Add Printer Wizard
This wizard helps you install a printer or make printer connections.
If you have a Plug and Play printer that connects through a USB port (or any other hot pluggable port, such as IEEE 1394, infrared, and so on), you do not need to use this wizard. Click Cancel to close the wizard, and then plug the printer's cable into your computer or point the printer toward your computer's infrared port, and turn the printer on. Windows will automatically install the printer for you.
To continue, click Next.
< Back
Next >
Cancel

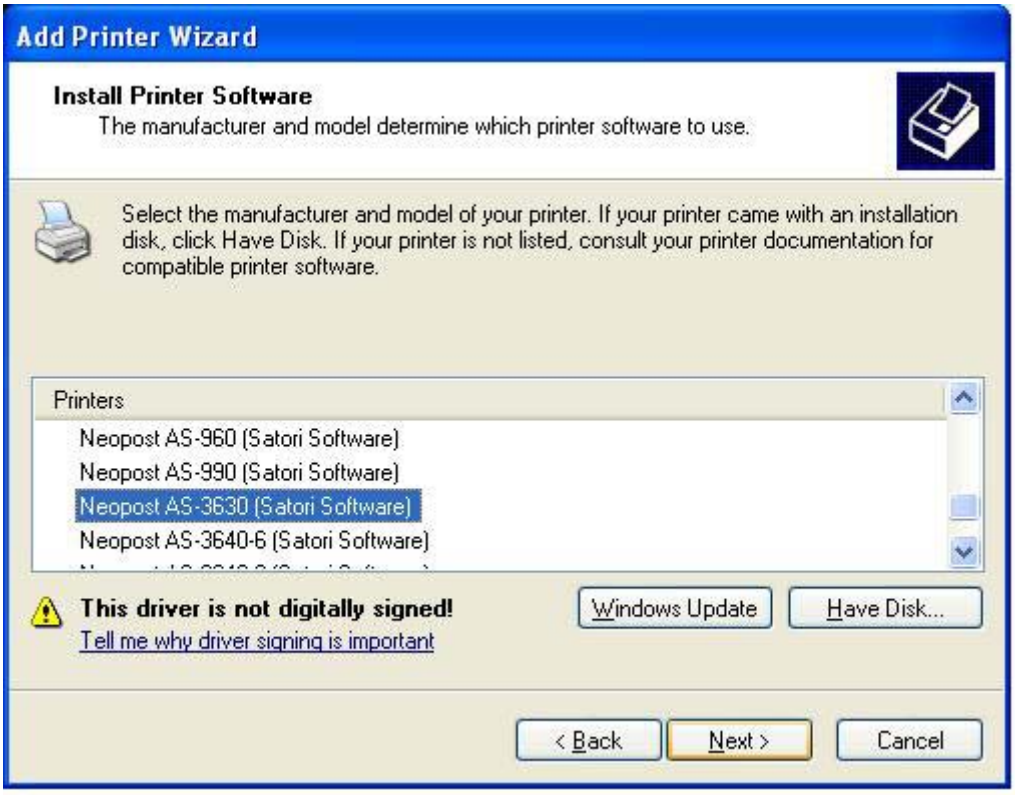
4. Select **Local printer attached to this computer**. Click **Next**.


Add Printer Wizard
Local or Network Printer
The wizard needs to know which type of printer to set up.
Select the option that describes the printer you want to use:
Local printer attached to this computer
Automatically detect and install my Plug and Play printer
A network printer, or a printer attached to another computer
To set up a network printer that is not attached to a print server, use the "Local printer" option.
< Back
Next >
Cancel

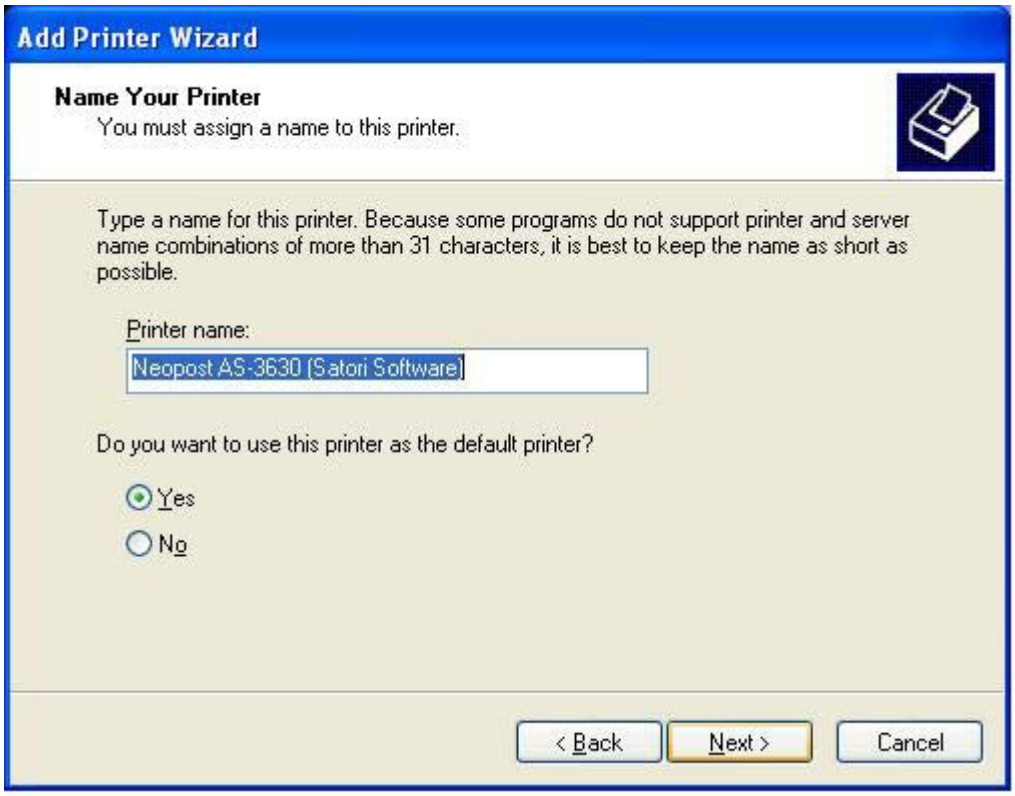
5. Select the appropriate printer port. Click **Next**.


Add Printer Wizard
Select a Printer Port
Computers communicate with printers through ports.
Select the port you want your printer to use. If the port is not listed, you can create a new port.
Use the following port:
LPT1: (Recommended Printer Port)
Note: Most computers use the LPT1: port to communicate with a local printer. The connector for this port should look something like this:
Create a new port:
Type of port:
EPFAX Port Monitor
< Back
Next >
Cancel

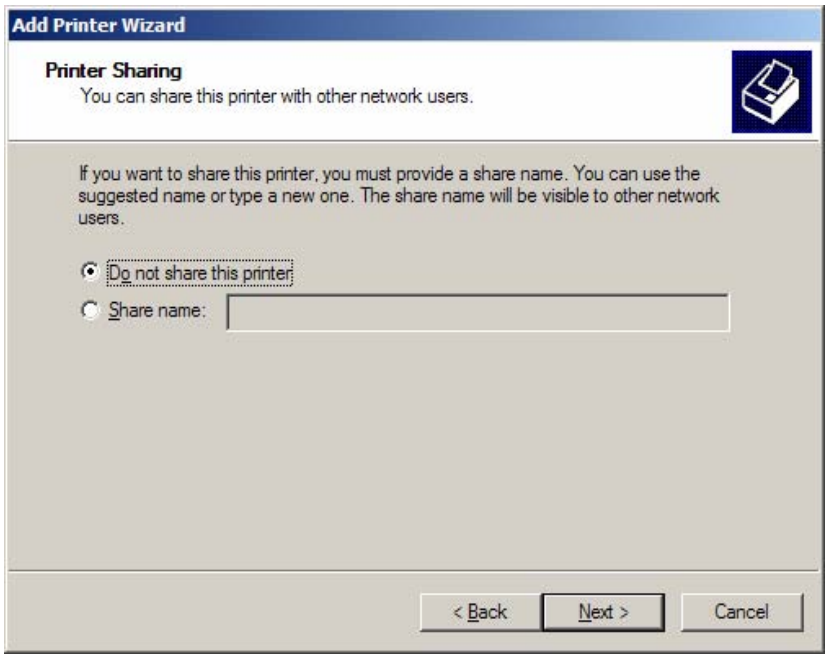
6. Choose your printer model from the menu. Click **Next**.


Add Printer Wizard
Install Printer Software
The manufacturer and model determine which printer software to use.
Select the manufacturer and model of your printer. If your printer came with an installation disk, click Have Disk. If your printer is not listed, consult your printer documentation for compatible printer software.
Printers
Neopost AS-960 (Satori Software)
Neopost AS-990 (Satori Software)
Neopost AS-3630 (Satori Software)
Neopost AS-3640-6 (Satori Software)
This driver is not digitally signed!
Tell me why driver signing is important
Windows Update
Have Disk...
< Back
Next >
Cancel

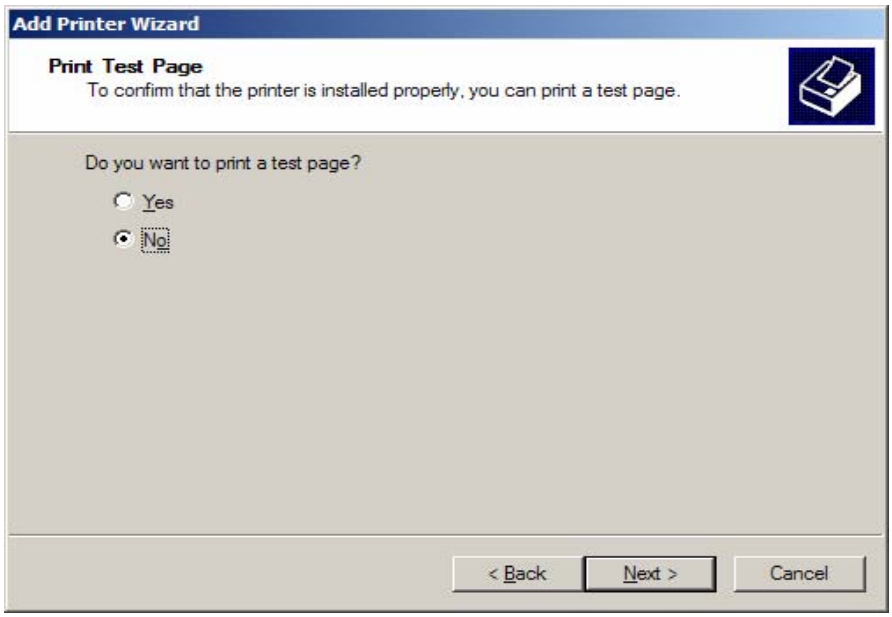
7. Select whether or not you wish to set this as your default printer. Click **Next**.


Add Printer Wizard
Name Your Printer
You must assign a name to this printer.
Type a name for this printer. Because some programs do not support printer and server name combinations of more than 31 characters, it is best to keep the name as short as possible.
Printer name:
Neopost AS-3630 (Satori Software)
Do you want to use this printer as the default printer?
Yes
No
< Back
Next >
Cancel

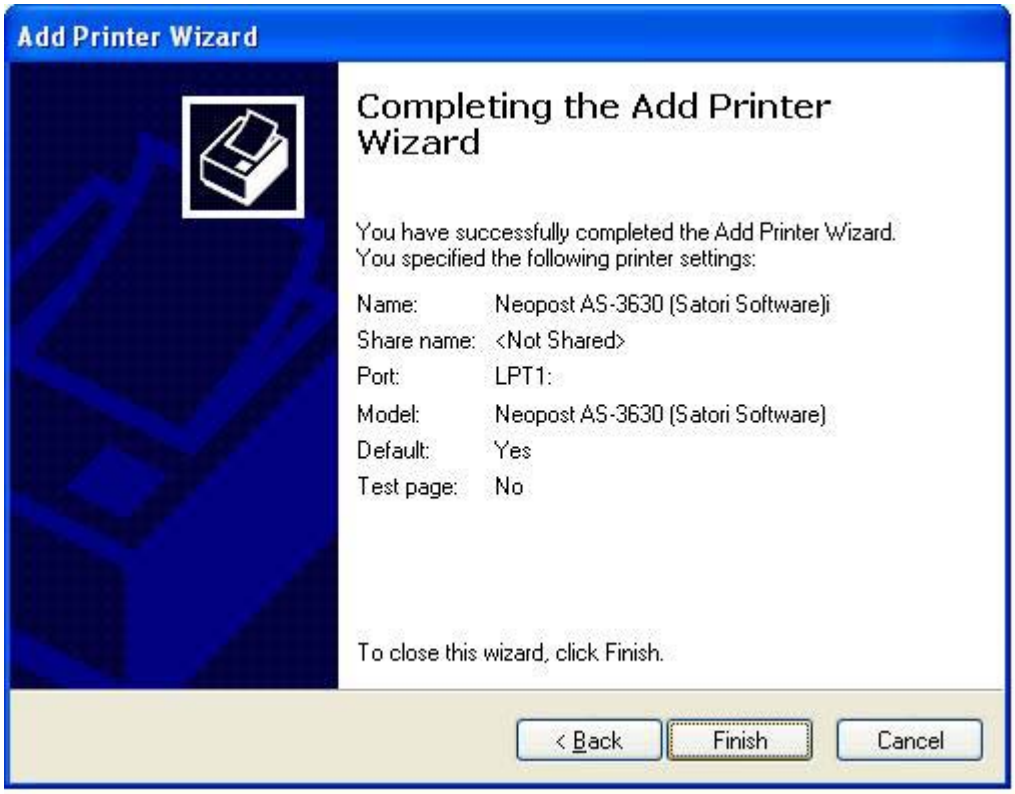
8. You are now given the choice of sharing this printer on your network. Click **Next**.


Add Printer Wizard
Printer Sharing
You can share this printer with other network users.
If you want to share this printer, you must provide a share name. You can use the suggested name or type a new one. The share name will be visible to other network users.
Do not share this printer
Share name:
< Back
Next >
Cancel

9. Choose whether or not you'd like to print a test page. Click **Next**.


Add Printer Wizard
Print Test Page
To confirm that the printer is installed properly, you can print a test page.
Do you want to print a test page?
Yes
No
< Back
Next >
Cancel

10. Verify all of your information and click **Finish** to complete the installation.



NOTE: You may receive the warning seen below. Click **Continue Anyway** to complete the installation.

Hardware Installation
The software you are installing for this hardware:
Printers
has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)
Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
Continue Anyway
STOP Installation

Installation is now complete.

Troubleshooting

8.10 Error Notifications

Error notification	Description	Elimination
ERROR LCA INIT. U# CALL SERVICE	Error when loading the hardware into the program module XC5210	- **Connexion assemblies open / to print circuit board** - **Program module XC5210**
ERROR LCA1 Ready U# CALL SERVICE	Error when loading the hardware into the program module XC5210 The number after „LCA“ indicates which program module is responsible for this	
ERROR LCA2 Ready U# CALL SERVICE		
ERROR LCA3 Ready U# CALL SERVICE		
WRONG LCA REVIS.! U# PLEASE UPDATE LCA	Defective LCA firmware	- **Loading new LCA firmware**
ERROR PEN BOARD# CHECK CABLE OR BOARD	Error on the HP PEN board # #=1,2,3	- **Check connectors** - **Insert PEN board**
NO PAPER !!	No paper	- **Feed paper**
PAPER JAM OR WRONG PAPER WIDTH	Paper jam	- **Check paper width**
NO INK !! U#C# CHANGE CARTRIDGE	The cartridge C# of the print unit U# is empty	- Insert new cartridge and reset the counter.
CHECKSUM ERROR ! U# MAKE DEFAULT RESET	Error in the buffered RAM of the unit U#	- Factory setting (***prog*** key)
CHECKSUM ERROR ! U# MAKE COUNTER RESET	Error in the buffered RAM of the unit U#	- Default factory setting (ONLY by technician)
CHECKSUM ERROR ! U# TESTMACRO RESET	Error in the buffered RAM of the unit U#	- Factory setting (***prog*** key)
CHECKSUM ERROR ! U# WIPE SPEED RESET	Error in the buffered RAM of the unit U#	- Factory setting (***prog*** key)
CHECKSUM ERROR !! U# SETTING RESET	Error in the buffered RAM of the unit U#	- Factory setting (***prog*** key)
TEST MACRO TOO LONG	The self-defined test address is too big	- Consider the maximum size
BUFFER OVERFLOW !!	Overflow of the receive buffer	- Check connection to PC
FONT ERROR !! LOAD FLASH FONTS!	Error in the Flash Prom	- Re-load fonts
WRONG CPLD REV.! U# PLEASE UPDATE CPLD	Invalid hardware configuration	- Re-programme program module XC95144
CPU-HW-ERROR! RESET THE PRINTER!	Serious error on the CPU	- Switch off device

Error notification	Description	Elimination
RAM ERROR !! U# VERIFY RAM	RAM error on CPU board	- Exchange CPU board
RAM ERROR U# INSTALL 4MB OF RAM	CPU board with small RAM	- Exchange CPU board
PROGRAM ERROR MAKE DEFAULT RESET	Error in the program flow	- **Factory initialisation** - **Re-load firmware**
UNPRINTED ADRESSES! FINISH THE JOB	Address has not been completely printed	- **Do not carry out any modification in the programming mode during the print job!**
UART-A-SEND-TIMEOUT RESET THE PRINTER!	Error in the UART program module or FET transistor	- **Exchange CPU board** - **Switch-off printer**
UART-A-REC-TIMEOUT RESET THE PRINTER!	Error in the UART program module or FET transistor	- **Exchange CPU board** - **Switch-off printer**
UART TIMEOUT RESET THE PRINTER!	Error in the UART program module or FET transistor	- **Exchange CPU board** - **Switch-off printer**
DISPLAY TIMEOUT RESET THE PRINTER!	Error of display control	- **Check cable connections** - **Exhange display unit**
BELT MOTOR JAMMED !	Error of conveyor belt control	- **Eliminate paper jam**
EMERGENCY BUTTON FEEDER!	Emergency button at the feeder is pressed	- **Release switch**
ERROR MOTOR BOARD1 START to RESET !	Error notification motor board 1	
WRONG POSITION U# START to Continue!	Position Unit# is outside the print area	- **Correct job layout**
WRONG PAPER HEIGHT! START to Continue!	Wrong print medium height	
Reduce Feeder Speed! U# START to continue!	Transport speed is too high for the print unit #	- **Reduce speed or data volume** - **Adjust INK CONSUMPT.:appr**
PRINTING ERROR REPEAT LAST ADRESS	Severe error	-
ERROR SLAVE BOARD# START to RESET!	Error on slave board# #=1.2.3	-
ERROR SLAVE BOARD START to RESET	Error on a slave board	-
CHECK CARTR. #U# START TO CONTINUE	Cartridge no. # of print unit no. # is not inserted	- Insert missing cartridge(s)
Font Loading ERROR: TIMEOUT	Error in the download font	- Check download font
Font Loading ERROR: HEADER (SB)	Error in the download font	- Check download font
Font Loading ERROR:HEADER (F)	Error in the download font	- Check download font
Font Loading ERROR:FONT ORIENT	Error in the download font	- Check download font
Font Loading ERROR:CHAR. HEADER	Error in the download font	- Check download font

Error notification	Description	Elimination
Font Loading ERROR:MEMORY (RAM)	Error when loading the font: insufficient memory	- Insufficient memory capacity for the font
Font Loading ERROR: CHAR. No.	Error in the download font	- Check download font
Font Loading ERROR:SUPPL. CHAR.	Error in the download font	- Check download font
Font Loading ERROR: CHAR: LasFt	Error in the download font	- Check download font
Font Loading ERROR: DATA LasFt	Error in the download font	- Check download font
Font Loading ERROR:CHAR. HEIGHT	Error in the download font	- Check download font
Font Loading ERROR:DL DISABLED	Error in the download font	- Check download font
MACRO LOADING ERROR RAM MEMORY IS FULL!	Error when loading the macro: insufficient memory	- Insufficient memory for the macro
ERROR FEEDER	feeder error report	-
ERROR FEEDER BOARD START to continue!	Error in the feeder electronics recognised	- Switch-off devices
Print Unit/s Parked! START to Continue!	Printing process started but print units are in parking position	- Shift print units from parking position to printing position
WARNING! Print Units Were not Parked!	After switching on, the print units are not in parking position	- Shift print units to parking position
Please Park Print Units, to prevent clogging cartridges! START to Continue!	After print end, the print units were not shifted to parking position	- Shift print units to parking position
FIFO ERROR! RESET THE PRINTER!	Error of HW program module	- Switch-off printer

8.11 Warning Notifications

Warning notification	Description	Elimination
WARNING! PLEASE U# UPDATE THE FIRMWARE!	Differing firmware versions	- Load all boards with the latest firmware
WARNING! THE RAM BOARDS ARE DIFFERENT	Differing RAM boards	- All boards with the same RAM
WARNING! PLEASE CHECK LAST ADDRESSES	Irregularities during printing	- Check the last addresses
Warning: Non-Existent Font Selected!	Selected font does not exist in the printer	- Printer was switched off, and the PC sends rest data
Warning:Non-Existent Macro Selected!	Selected macro does not exist in the printer	- After finished job, the addresses cannot be repeated - Defective PC program
Error Macro ID Contact FlexSystems!	Error in FlexMail program	- Contact FlexSystems
Error Macro ID Report Err. 2 Vendor	Error in FlexMail program	- Contact FlexSystems
Warning:Wrong Data/ Barcode Selected!	Error in FlexMail program	- Contact FlexSystems
Error Barcode Data Contact FlexSystems!	Error in FlexMail program	- Contact FlexSystems
Error Barcode Data Report Err. 2 Vendor	Error in FlexMail program	- Contact FlexSystems
Warning:Wrong Offset Paper Value Selected	Wrong “Paper Offset” setting in FlexMail	- Correct settings
Warning:Wrong Unit Posit.Value Selected	Wrong position of the unit in FlexMail	- Correct settings
Position Warning! Reduce Left Margin!	Paper length or address position not ok	- Checking paper length, reduce left margin in the PC program
Macro Too Large Or Wrong Hor. Position!	Macro too broad	- Consider maximum width; for self-created macros: graphics always upper left-hand position, then convert into macro
Macro ID# In Use Macro Load Ignored!	Macro (same number) already exists, overwriting not possible	- Delecte macro, re-define
Macro Too High Reduce To 3 Inches!	Macro is too high	- Reduce graphics height to 76.2 mm

9 Appendix

9.1 Maintenance Instructions

9.1.1 Cleaning the ink cartridge

Clean the nozzles of the ink cartridge using a *TexWipe*® cleaning tissue *(ordering no. KH-TX304).*

The following materials are NOT suitable for cleaning the printhead and the ink cartridge!

- Paper towels
- Toilet paper
- Sponges
- Cloths with grinding substances or small fibres which may deposit on the nozzle plate of the cartridge
- Dry cloths

To achieve optimal print quality, lead the cloth in the direction of the nozzle rows (see below figure):

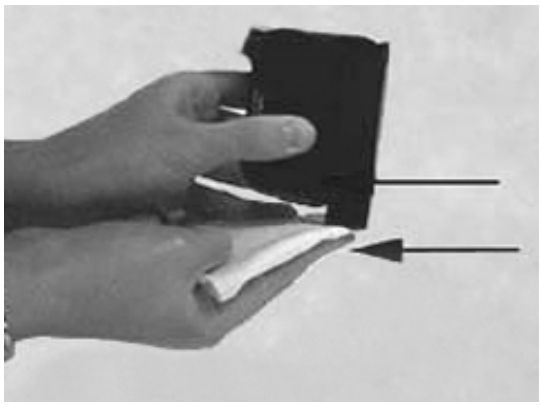


Figure 9-1: Cleaning the cartridges

9.2 Interfaces

The Model 3630 printer is equipped with two standard print data interfaces. Both of them offer the possibility to connect the printer to the PC.

- USB 1.1
- IEEE1284 (Centronics, parallel)

In addition, the is provided with a control/status interface.

- RS-232-C serial

The interface connecting ports are located on the rear side of the device.

9.2.1 Centronics parallel interface

The Model 3630 printer is equipped with a standard Centronics parallel interface. This interface is most commonly used for connecting a personal computer. Contrary to the RS-232-C serial interface, usually here no particular commands

or configurations for the printer or the computer are necessary. Moreover, with the Centronics parallel interface cable, the data are transferred faster.

The parallel interface plug exhibits a standard 36-pin amphenol connector with two metal clips.

9.2.1.1 Connecting socket

Connector type: multipoint connector amphenol
Type series: 57 - 40360
Cable length max. 2 m
Amphenol multiway connector 57 - 30360

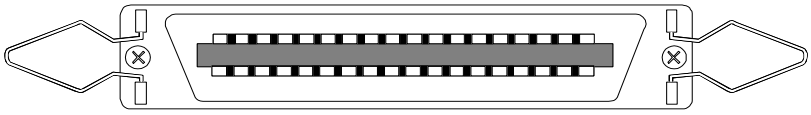


Figure 9-2: Parallel interface port

You will find the signal description on the following page.

9.2.1.2 Signal description

PIN	Associated GND	Signal	Signal I/O	Meaning
1	19	STROBE	I	This impulse (0.5 s) reports that data bits are valid
2-9	20-27	DATA 1-8	I	Data bits D0-D7
10	28	ACKNOWLEDGE	O	Printer reports: data are processed (is ready-to-receive)
11	29	BUSY	O	Printer reports: data received, data are being processed
12	30	PE (paper empty)	O	Printer reports to the computer: no paper available
13	--	SELECT (Online)	O	Signal is high when printer is online
14	--	Autofeed	I	No function, only for bidirectional interface
15	--	Frei		Free
16	--	GND		GND
17	--	Chassis-GND		Chassis-GND
18, 35	--	+ 5V		+ 5 V over 0.2 A Si
19-30	--	GND		GND
31	--	INIT	I	Resets printer
32	--	ERROR	O	Signal is low in case of error in the printer
33	--	GND		GND
34	--	Frei		Free
36	--	SELECT IN	I	No function, only for bidirectional interface

9.2.1.3 Impulse diagram

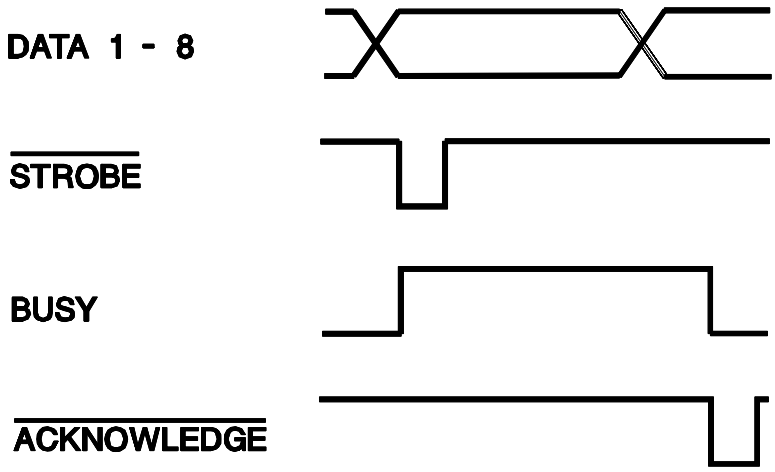


Figure 9-3: Impulse diagram parallel interface

9.2.2 RS-232-C serial interface

The DADDP printer is equipped with a standard RS-232-C serial interface which is compatible with most computers and terminals.

9.2.2.1 Connecting socket

The Model 3630 printer is equipped with a standard DB-9 serial connecting socket.

9.2.2.2 Connector pin assignment

PIN	Signal	Signal Inp./outp.	Meaning
1	---	-	Free
2	R x d	I	Received data
3	T x d	O	Transmitted data
4	DTR	O	Readiness to receive
5	GND	-	Signal ground
6	---	-	Free
7	RTS	O	+12 V
8	CTS	I	Clear to send
9	---	-	Free

Pin 2

Received Data (RxD):

Serial data transmission from the computer to the printer.

Pin 3

Transmitted Data (TxD):

Serial data transmission from the printer to the computer system or the terminal (e.g. X_{ON}/X_{OFF} sign).

Pin 4

Data Terminal Ready (DTR):

Output of the printer which releases or interrupts (“handshaking”) the transmission of data to the printer. Data transmission is possible when the DTR is high. It is not possible when the DTR is low.

Pin 5

Signal Ground (GND):

The reference potential for the entire data exchange.

Pin 7

Request to Send (RTS):

When the printer is switched on, this signal is always high.

Pin 8

Clear to Send (CTS):

Input of the printer which releases or interrupts the sending of data to the computer. If the input is high, then the printer is allowed to send data. When software handshaking with Xon/Xoff, this input must always be high.

9.3 Fonts

9.3.1 Terminology

A font is a collection of characters and symbols with the same font type and distance, the same size (height), line thickness and font inclination.

9.3.1.1 Font type

The font type is a set of characters and symbols with a certain design.

Cour Helv TmsRm

9.3.1.2 Serif or Sans Serif font type

Serifs are small, cross lines on the upper or lower parts of the characters (in German, so-called “tootsies” at the Antiqua fonts). Cour is a Serif font type. Font types without serifs are called Sans Serifs. Helv is a Sans Serif font type. The following figure shows the difference between a Serif font type and a Sans Serif font type.

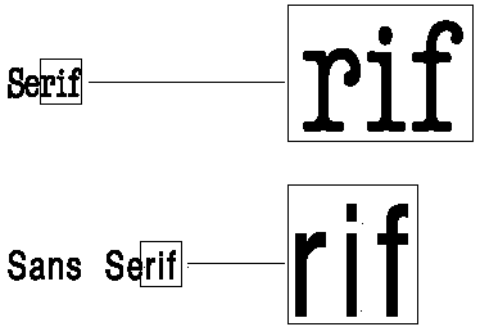


Figure 9-4: Serif and Sans Serif

9.3.1.3 Font inclination

Selectively, the font characters can be printed in straight (normal) alignment or – in a constant angle – in inclined (cursive) alignment.

This example shows straight characters.
This example shows inclined characters.

9.3.1.4 Distance

The distance refers to the relative writing density between the letters of a font. The character distance is either fixed or proportional.

Fixed distance

At a fixed character distance, each letter takes the same width and has the same distance to the neighbouring letter. Cour and LetGot are fonts with a fixed character distance.

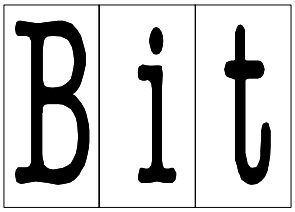


Figure 9-5: Fixed character distance

Proportional distance

At a proportional character distance, the distance depends on the width of the letter. Helv and TmsRm are fonts with a proportional character distance.

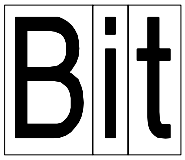
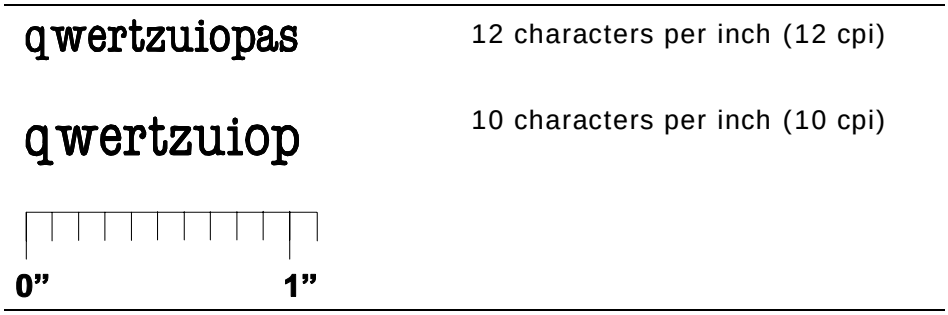


Figure 9-6: Proportional character distance

9.3.1.5 Pitch

The pitch refers to the number of printed characters within a linear inch. A font with a pitch of 10 cpi prints 10 characters per horizontal inch (cpi = characters per inch). The pitch can only be given for fonts with a fixed distance.



9.3.1.6 Dot size

The dot size (character height) refers to the height of a printed capital letter. The dot size is measured in pica points. A dot is 1/72 of an inch.

Both fonts, those with a fixed and those with a proportional character distance, are measured in their height in pica points.

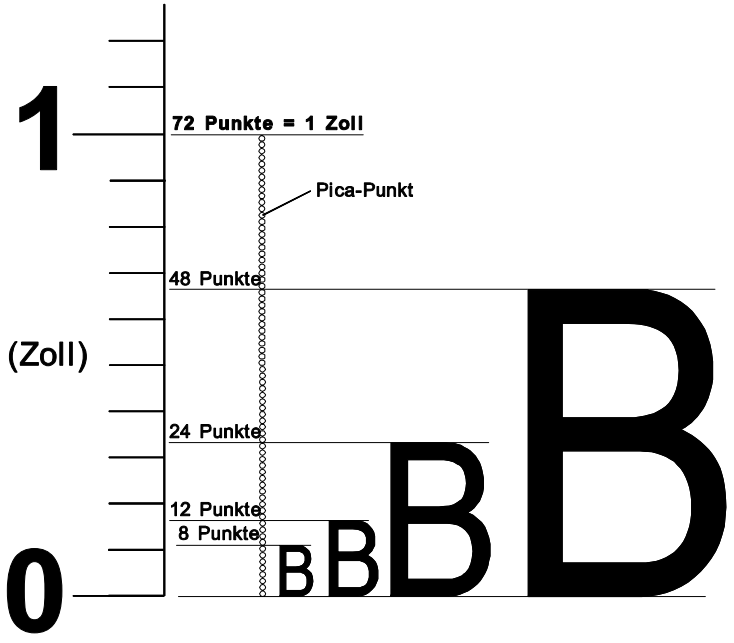


Figure 9-7: Dot size

9.3.1.7 Underlining

To particularly highlight a text passage, you may underline that passage. By doing this, its consistent typeface is retained.

You may underline a single word.

9.3.1.8 Wide font

While maintaining the proportion character width/distance, you can print the characters twice as broad as usually (for example for large-volume shipments).

This is normal width.
This is wide font.

9.3.1.9 Character distance

To highlight individual words more clearly, you may increase the distances between the letters and words without modifying the character size itself.

This e x a m p l e is spaced out (letterspaced).

9.3.1.10 Quality

Quality refers to the printout quality.

Selection between the following print qualities [dpi x dpi]:

1 x 3 relates to 150 x 300
1 x 6 relates to 150 x 600
2 x 3 relates to 200 x 300
2 x 6 relates to 200 x 600
3 x 3 relates to 300 x 300
3 x 6 relates to 300 x 600
6 x 3 relates to 600 x 300
6 x 6 relates to 600 x 600

9.3.1.11 Printing direction

The printing direction relates to the (readable) font position for the positioning on the print medium. The printing direction can be rotated by 180°. The arrow in the figure marks the paper passage direction.

Nor **Rev**

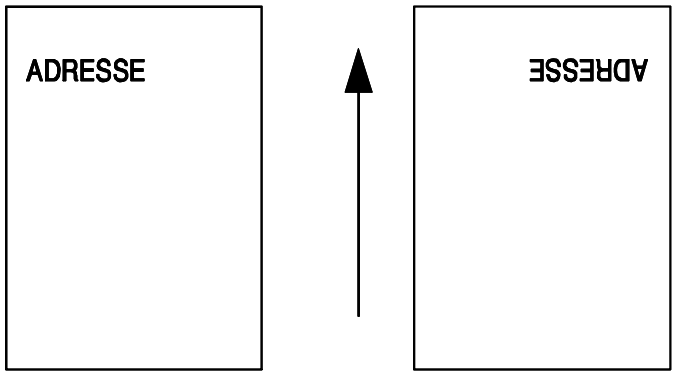


Figure 9-8: Printing direction

9.3.2 Character set

A character set consists of characters and symbols which contain all elements of a language or discipline (country-specific characters), including the punctuation marks and the numbers.

9.3.2.1 7-bit character set

A 7-bit character set corresponds to the definitions of the “International Standards Organisation” (ISO) and the “American Standard Code for Information Interchange” (ASCII).

There are 128 characters in the 7-bit character set.

In the following, a 7-bit character set is illustrated.

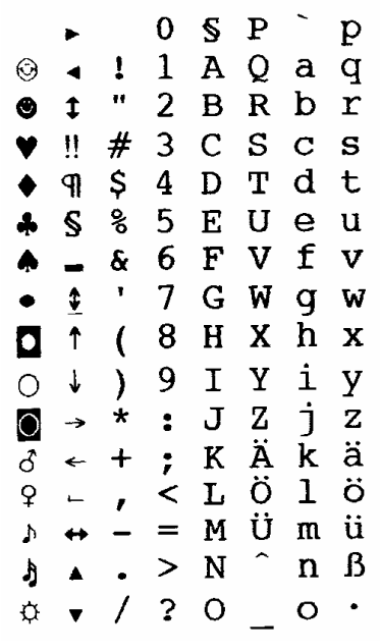


Figure 9-9 7-bit character set Ger7

9.3.2.2 8-bit character set

There are 256 characters in the 8-bit character set.

With this, many national characters are available. In the following, the most commonly used 8-bit character set is illustrated.

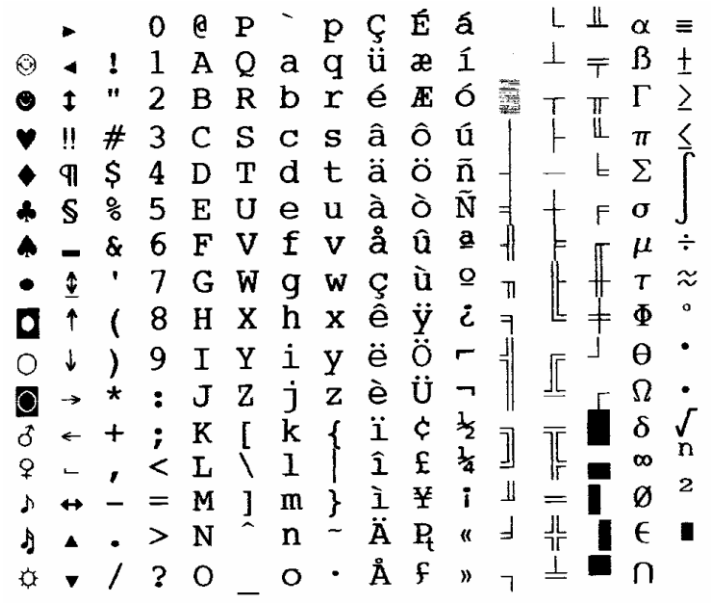


Figure 9-10: 8-bit character set PC8

9.3.3 Selecting the print fonts

The fonts are selected with the help of the software or printer commands.

Fonts can be used in a targeted manner to impart a certain look to the print medium.

Choose those fonts which comply with the message of your document.

9.3.3.1 Serif font types

The following example shows an address with the font type Cour12:

```
Test print Model 3630
```

9.3.3.2 Sans Serif font types

The following example shows an address with the font type Helv12:

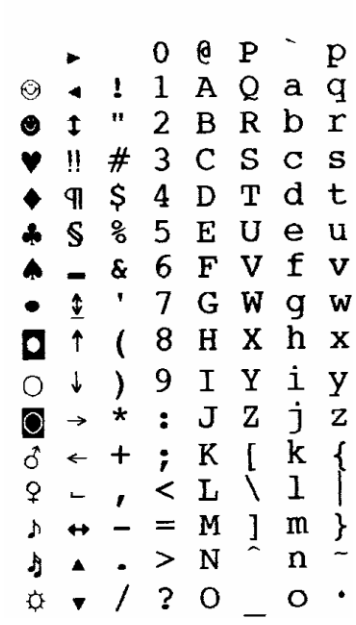
```
Test print Model 3630
```

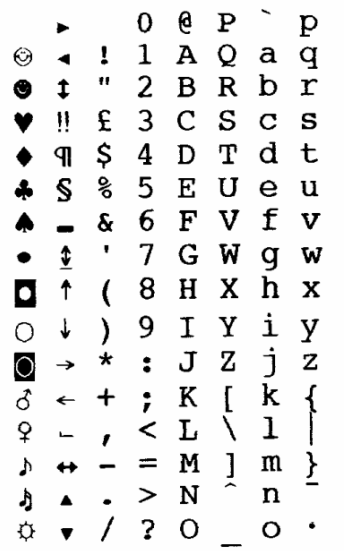
9.4 Character Sets

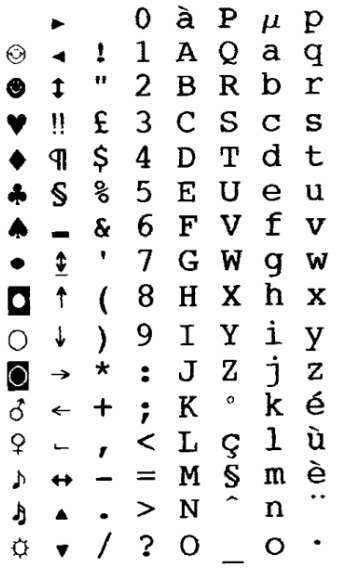
Notes for the application of character sets:

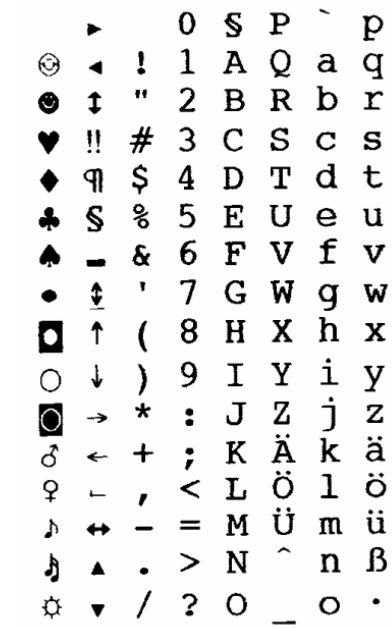
- Character set name: the specification given in brackets (e.g. **USA7**) corresponds to the option field name in the DA590/DA606/DADDP/DA610
- With the ASCII printer command (e.g. **E_c (0 U**), you can call up the character set in your software.

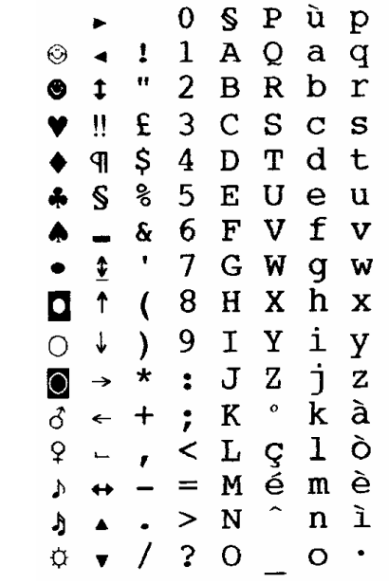
9.4.1 7-bit character sets

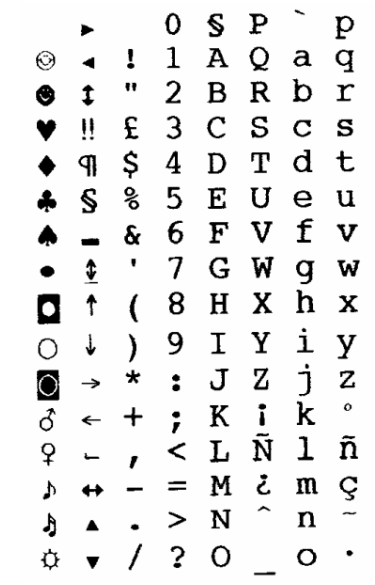
ASCII (= USA7)	
	
ASCII:	E_c (0 U
Decimal:	27 40 48 85
Hexadecimal:	1B 28 30 55

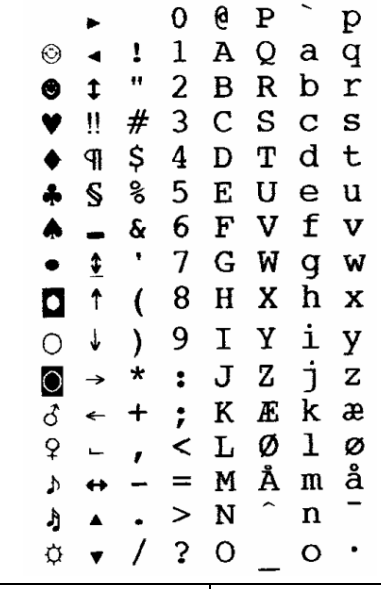
United Kingdom (= UK7)	
	
ASCII:	E_c (1 E
Decimal:	27 40 49 69
Hexadecimal:	1B 28 31 45

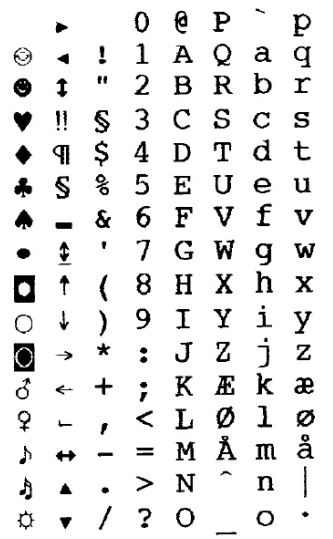
France (= Fra7)	
	
ASCII:	E_c (1 F
Decimal:	27 40 49 70
Hexadecimal:	1B 28 31 46

Germany (= Ger7)	
	
ASCII:	E_c (1 G
Decimal:	27 40 49 71
Hexadecimal:	1B 28 31 47

Italy (= Ita7)	
	
ASCII:	E_c (0 I
Decimal:	27 40 48 73
Hexadecimal:	1B 28 30 49

Spain (= Spa7)	
	
ASCII:	E_c (2 S
Decimal:	27 40 50 83
Hexadecimal:	1B 28 32 53

Denmark (= Den7)	
	
ASCII:	E_c (1 D
Decimal:	27 40 49 68
Hexadecimal:	1B 28 31 44

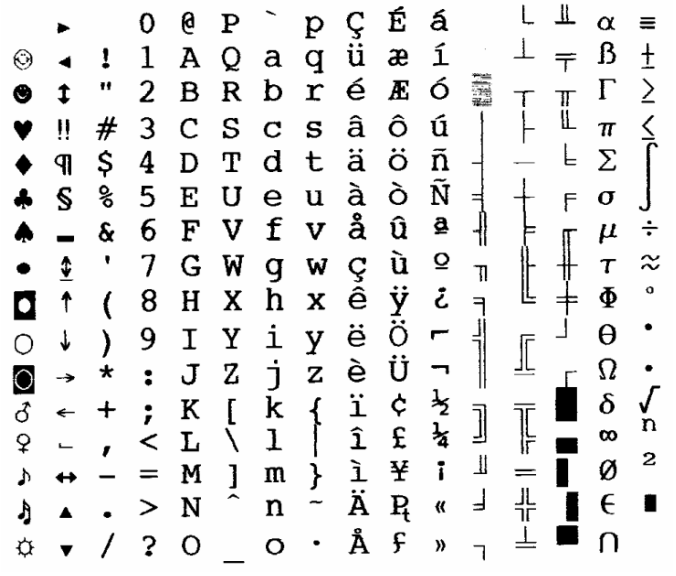
Norway (= Nor7)	
	
ASCII:	E_c (0 D
Decimal:	27 40 48 68
Hexadecimal:	1B 28 30 44

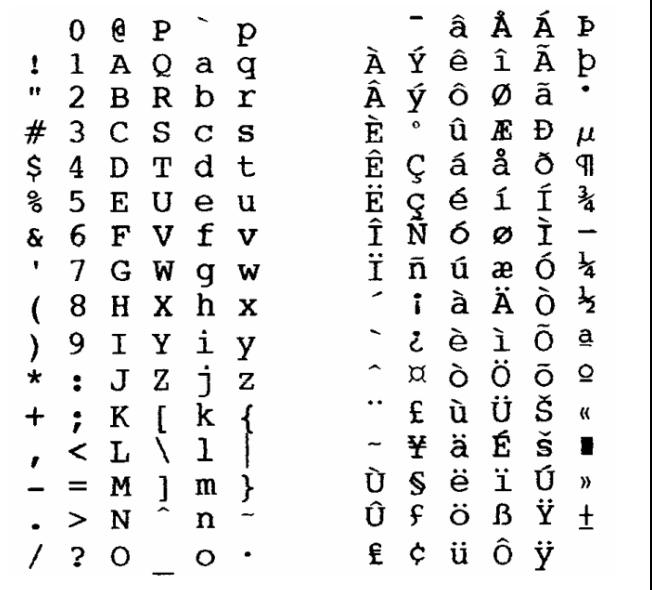
Sweden (= Swe7)	
ASCII:	E_c (3 S
Decimal:	27 40 51 83
Hexadecimal:	1B 28 33 53

Schweden / names (= SwN7)	
ASCII:	E_c (0 S
Decimal:	27 40 48 83
Hexadecimal:	1B 28 30 53

Portugal (= Por7)	
ASCII:	E_c (4 S
Decimal:	27 40 52 83
Hexadecimal:	1B 28 34 53

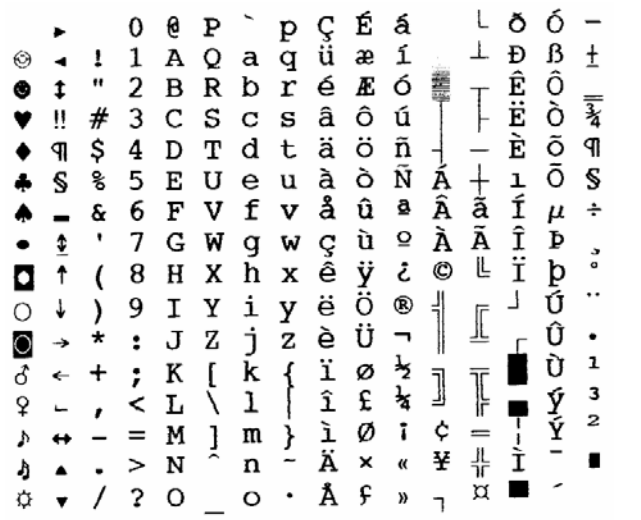
9.4.2 8-bit character sets

PC-8 (= PC8)	
	
ASCII:	E_c (10 U
Decimal:	27 40 49 48 85
Hexadecimal:	1B 28 31 30 55

Roman8 (= Rom8)	
	
ASCII:	E_c (8 U
Decimal:	27 40 56 85

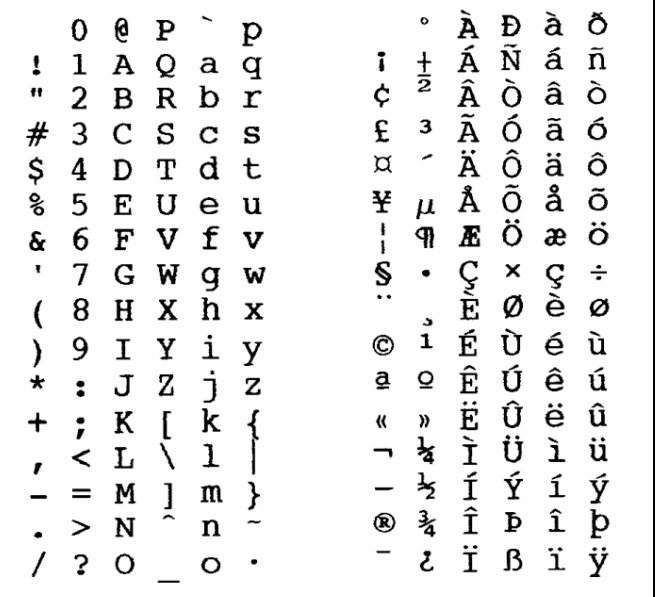
Hexadecimal:	1B 28 38 55

PC-850 (= P850)



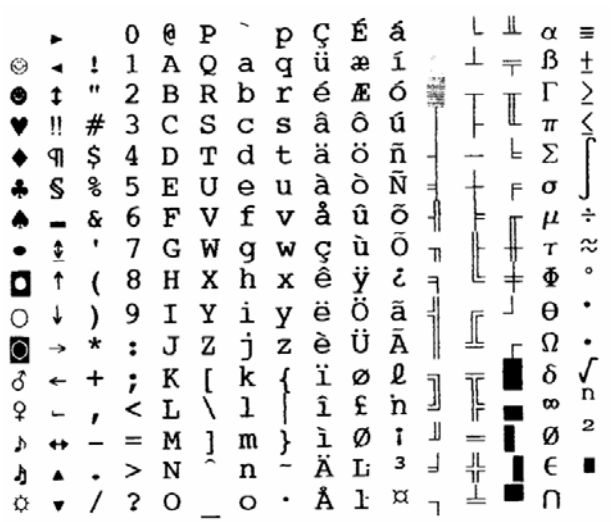
ASCII:	E_c (12 U
Decimal:	27 40 49 50 85
Hexadecimal:	1B 28 31 32 55

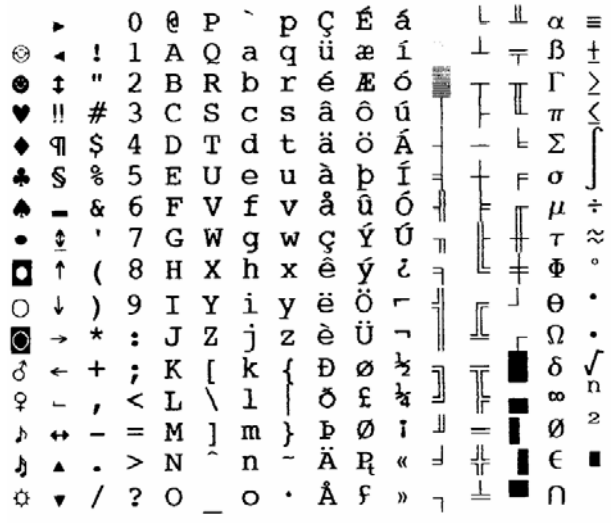
ECMA-94 Latin 18 (= ECMA)

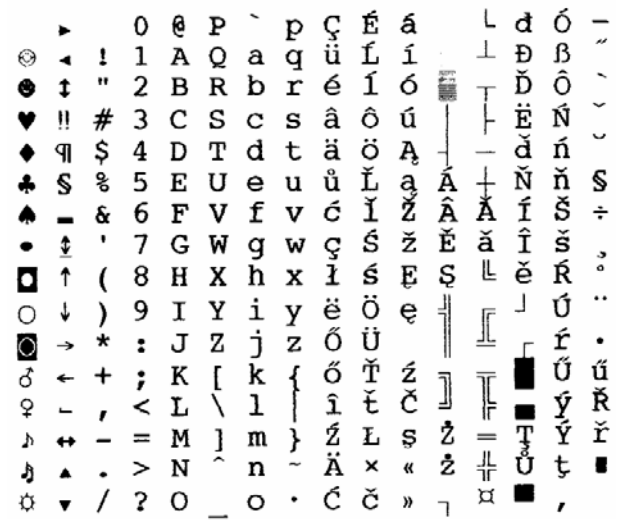


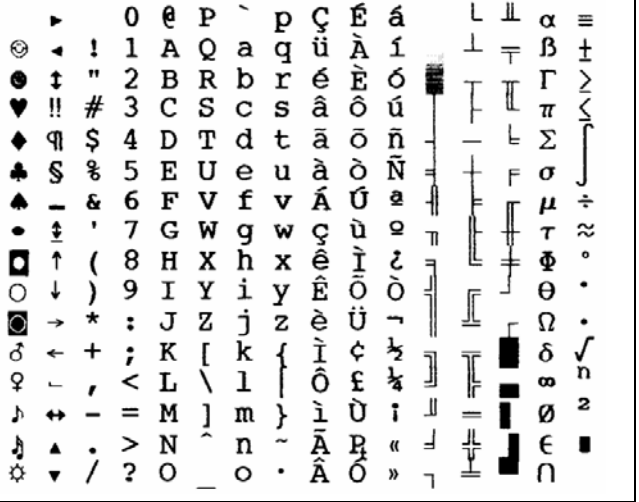
ASCII:	E_c (0 N
Decimal:	27 40 48 78

Hexadecimal:	1B 28 30 4E

PC-8 Denmark/Norway (= P8DN)	
	
ASCII:	E_c (11 U
Decimal:	27 40 49 49 85
Hexadecimal:	1B 28 31 31 55

ICEL (= ICEL)	
	
ASCII:	E_c (33 O
Decimal:	27 40 51 51 79
Hexadecimal:	1B 28 33 33 4F

PC-852 (= P852)	
	
ASCII:	E_c (17 U
Decimal:	27 40 49 55 85
Hexadecimal:	1B 28 31 37 55

PC-860 (= P860)	
	
ASCII:	E_c (20 U
Decimal:	27 40 50 48 85
Hexadecimal:	1B 28 32 30 55

9.5 Technical Data Model 3630 DDP

Throughput	max. 39.000 postcards/hour at 150 dpi	
Printheads	6 (2 print units)	
Print method	Fixed head, automatic positioning	
Graphics capable	YES	
Colours	1, spot colour	
Print medium formats	Minimum (L x H):	88 x 88 mm
	Maximum (L x H):	420 x 330 mm
	L = in transport direction	
	Print height max.	76 mm (2 x 38 mm)
	Print width max.	420 mm
	width = in transport direction	
Material thickness	Minimum 0.1 mm	
	Maximum 18 mm	
Logistics function	Yes, single-sheet control with RENA Dreamfeeder	
Kinds of paper	Single sheets, documents, envelopes, booklets, etc.	
Paper quality	Inkjet-suitable, *no foils or high-gloss paper*[1]	
Ink cartridge	HP45A cartridge	
Character sets	13 internal fonts and downloadable fonts	
Main memory	64 MB	
Repeatable	The last 20 pages	
Supply voltage	100 – 240 VAC at 50 ~ 60 Hz	
Power input	2 x 2 A T (at 230 VAC)	
	2 x 3.15 A T (at 110 VAC)	
Work environment	10-31°C/20-80% rel. humidity (not condensing)	
Data interfaces	USB (1.1) / Parallel Centronics std. (IEEE1284)	
Status interfaces	Serial (RS-232)	
Driver	Windows 2000/XP	
Special functions	Barcodes (10 internal barcodes)	
	Configuration memory for 9 user settings	
	Test address loadable	
	Indication of ink consumption	
Dimensions (L x W x H)	880 x 740 x 330 mm	
Weight	100 kg	

[1] *Possible with adequate inks and dryers*

10 Glossary

ASCII:	ASCII is the abbreviation for "American Standard Code for Information Interchange". The printer commands used in this manual are entered in the form of ASCII codes. Also decimal or hexadecimal codes may be used.
Barcode:	The data information of a print medium is converted into a single-line barcode. This is done in a language-neutral and character-neutral manner. A barcode is easy to create and readable with the help of simple opto-electronic devices. It is printed in addition to textual information.
Baud rate:	Baud rate is the speed with which the data are transferred between the computer and the printer on the serial interface. The computer and the printer must have the same baud rate. It may range between 1,200 and 9,600 baud, depending on the computer used. The baud rate is only determined when a serial interface is used.
Bit:	Binary digit. As the smallest possible unit of digital information, the bit can only represent two positions, either “I” or “0”.
Bitmap:	Bitmap represents a collection of dots as a graphic or text graphic in output devices (printer, monitor).
Buffer:	The buffer is a storage memory area in the printer. In the buffer, information which is destined for input or output is stored until it is processed.
Byte:	A storage unit consisting of 8 bits.
Character distance:	All fonts have either a constant or a variable character distance. In a font with constant character distance, all characters, independent of their size, have the same width. For proportional font, the width depends on the width of the particular character.
Character height:	The character height refers to the height of a printed capital letter. The point size is measured in pica points. A point is 1/72 of an inch.
Character sets:	A character set is defined specific to its application. It is usually a combination of letters, ciphers, lines and symbols within a font. However, character sets may also exclusively consist of symbols.
Characters:	Characters are understood to be letters, numbers and symbols which can be printed.
Configuration:	In a configuration, particular printer settings are ascertained. You may set up several configurations and save each one of them under its individual configuration number.
Control code:	See printer command.
Control panel:	The control panel includes the keypad and the display. Here, the settings are executed internally on the printer.
CPI:	Characters per inch. It is the measuring unit characters per inch for the pitch.

Data transfer:	Data transfer is the transfer of information between the computer and the printer.
Default configuration:	Prior to dispatch, the printer's default settings are programmed. These factory settings are saved under the configuration number "0". They continue to be active until another configuration number is selected and setting modifications are carried out.
DPI:	Dots per inch. It is the unit of measurement which determines the sharpness. The more dots, the higher is the sharpness.
Driver:	See printer driver.
Escape character:	The escape character E_C is a command initiation within the ASCII. This character is not printed. The characters that follow after the escape character are detected by the printer as command codes.
Escape sequences:	See printer command.
Font cartridges:	They contain fonts which can be loaded in the printer.
Font inclination:	Selectively, the font characters may printed vertically straight (normal) or – in a constant angle – inclined (cursive).
Font type:	Font type refers to the print design of a character set. Cour, for example, exhibits a different character design than LetGot or Helv.
Font:	A font is a collection of characters and symbols of the same font type and distance, the same size (height), line thickness and font direction. Fonts may be installed internally in the printer or may be loaded externally via font cartridges.
Handshake:	Handshake is understood to be the controlling of the data transfer between the computer and the printer. The purpose is to prevent the buffer of the printer memory from overflowing or from loss of data.
Hardware:	The components of your computer system (e.g. computer, keyboard, printer) are termed hardware.
Ink cartridge:	The ink cartridge contains ink for printing. After the ink has been used up, the empty cartridge is replaced by a new commercially available one.
Interface cable:	The data transfer cable which connects your computer to the printer or to another peripheral device.
Interface port:	The Model 3630 is delivered with three interface connecting ports (USB, parallel and serial). These are located on the rear side of the device above the power plug. Here the connecting cable for your computer and printer must be connected.
Internal fonts:	The internal fonts are installed in the printer. They are an inherent part of the printer.
Line thickness:	The line thickness refers to the line width. A distinction is drawn

	between normal and bold line thickness.
Loadable fonts:	Loadable fonts (soft or download fonts) are stored on disk. They may be transferred to the printer memory.
LPI	Lines per inch. It is the measuring unit for the line density. The most commonly used line density for printing is 6 LPI.
Offline:	In offline mode, the printer cannot receive data from the computer. In this mode, settings and programmings on the printer itself are carried out.
Online:	In online mode, the printer can receive data from the computer. With the exception of the “START” button, the keypad is inoperative in this mode.
Paper jam:	A paper jam occurs when the paper gets jammed during printing and when paper feed or paper exit are blocked.
Paper recognition:	Paper recognition is necessary to maintain the top margin value and for stopping when paper gets jammed. In any case, the print medium must be transported above the paper recognition.
Paper size:	The paper size refers to the paper format which should be printed on. When turning the layout by 180°, the top margin value is automatically detected so that it corresponds to the set value of normal layout orientation.
Parallel interface:	The parallel interface, also termed Centronics interface, is a connection from the computer to the printer. By this interface, always 8 bits (= 1 byte) are transferred simultaneously (parallel).
Parity:	Parity is a method of error detection which is carried out via a serial interface. During data transfer, errors in the transfer process are detected. Thereby the parity of binary ones in an information unit (e.g. a byte) is checked.
PCL command:	PCL (printer control language) is the HP PCL Level III printer language which was developed by Hewlett-Packard.
Pitch:	Pitch refers to the number of printed characters within an inch.
Point size:	The point size is measured in pica points. One point is 1/72 of an inch.
Print area:	The print area covers the maximum width which is accessible for the ink cartridge.
Print head carriage:	The print head is mounted at the movable print head carriage.
Print head distance:	The print head distance influences the print sharpness. If the distance is too big, a fuzzy print is produced. If the distance is too small, the ink may smear.
Print head holder:	The ink cartridge is fixed at the print head holder.
Printer	The printer command is entered via the software application in order

command:	to modify the active printer configuration.
Printer driver:	The printer driver converts the printer commands, which had been entered via the software, into command codes for the printer. The printer driver must be adapted both to the software and to the printer.
Resolution:	A measure for the image sharpness. It is given in dots per inch (dpi).
Sans Serif font:	A font type which has no horizontal small lines at the top or bottom ends of its characters. This text, for example, is printed in a “Sans Serif” font type.
Separating fingers:	The separating fingers enable single-sheet feed from a print media stack. The sheets above the bottom sheet are held back.
Serial interface:	A serial interface transfers the data consecutively (bit by bit) from the computer to the printer. It is connected with the help of a RS-232-C connector.
Serif font:	Serifs, in German, are so-called “tootsies” on the characters of the Antiqua fonts. The font type Cour, for example, is a “Serif” font.
Setting:	A selection of arranged configurations.
Soft Font:	Soft fonts (loadable fonts) are fonts which are stored on disk. These fonts can be transferred to the printer memory.
Software:	Software is understood to be the working and graphics programmes as well as programmings or special application packages.